

## Menopause: Your Management Your Way ... Now and for the Rest of Your Life

### I. Introduction

#### A. Phases of the female life cycle

1. Menopause is important because you will spend a major portion of your life as a menopausal woman.

<u>Phase</u>	<u>Age</u>	<u>Duration (years)</u>	<u>Reproductive status</u>
Childhood	0-11	11	Pre-reproductive
Puberty	11-13	2	Entering reproductive
Adolescence	13-18	5	Reproductive
Adulthood	18-50	32	Reproductive
Menopause & Beyond	50-??	20-55	Non-reproductive

2. Menopause is a huge population explosion.
  - a. By the year 2020, there will be 967 million postmenopausal women.
  - b. By the year 2030, there will be 1.2 billion postmenopausal women.
  - c. These figures don't include the 600,000 women who become menopausal by surgical means each year.
3. As our life expectancy increases, we'll spend a larger proportion of our lives as menopausal women.
  - a. The current life expectancy for females is:
    - 1.) 80.5 years for white women
    - 2.) 76.1 years for black women

#### B. Information Sources

1. There's plenty of it. Menopause isn't a new phenomenon.
2. There are various books and resources:
  - a. Promoting hormones
  - b. Rejecting hormones
  - c. Supporting herbal remedies
  - d. Advocating diet & lifestyle measures
3. Almost all currently available information is biased.
4. Almost all sources treat all women alike.
5. Most sources usually promote one management option over all others
6. Great if you *already know* how you prefer to manage your menopause.
7. Of no help if you're among the millions of women who don't know where to begin
8. What you want, need, & deserve is:
  - a. Complete, accurate information +
  - b. Guidance in tailoring the information to your unique situation +
  - c. All the options, without biases +
  - d. The opportunity to manage *your menopause your way*  
= EMPOWERMENT
9. You know yourself better than anyone else does.
10. This requires *more than just the golden rule*.
  - a. Standard of care – the appropriate duty a physician has to a patient in terms

of informed consent & medical care

- 1.) 3 Standards of care
  - a.) Professional community standard =  
What a reasonable physician would do
  - b.) Reasonable person standard =  
What a reasonable patient would want
  - c.) This particular patient in her particular circumstance  
standard = What YOU want
11. When it comes to menopause, *it's all about YOU!*
12. Your relationship with your physician is a partnership
  - a. The physician offers medical knowledge
  - b. You offer all the information on yourself ...  
and YOU decide what you want
13. What you do to manage your menopause depends on:
  - a. Your age
  - b. Your stage of menopause
  - c. Your symptoms of menopause
  - d. Whether or not you still have periods
  - e. Your medical problems
  - f. Your previous surgeries
  - g. Your family history of medical problems
  - h. Your body habitus (shape)
  - i. Your dietary habits
  - j. Your exercise habits
  - k. Your use of tobacco & alcohol
  - l. Your personal preferences for Alternative & Complementary or Allopathic  
options
  - m. Your previous experiences with menopausal options
  - n. Your geographic proximity to resources
  - o. Your short-term & long-term goals

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**II. Orientation**

A. Eggs

1. You are born with all the eggs you'll ever have, numbering more than 1,000,000 immature eggs.
2. During your reproductive years, approximately 450 eggs are released during ovulation. Most of the others just shrivel up.
3. Menopause occurs when you reach a critically low number of 1000 eggs.

B. Menopause = Puberty in reverse

Puberty

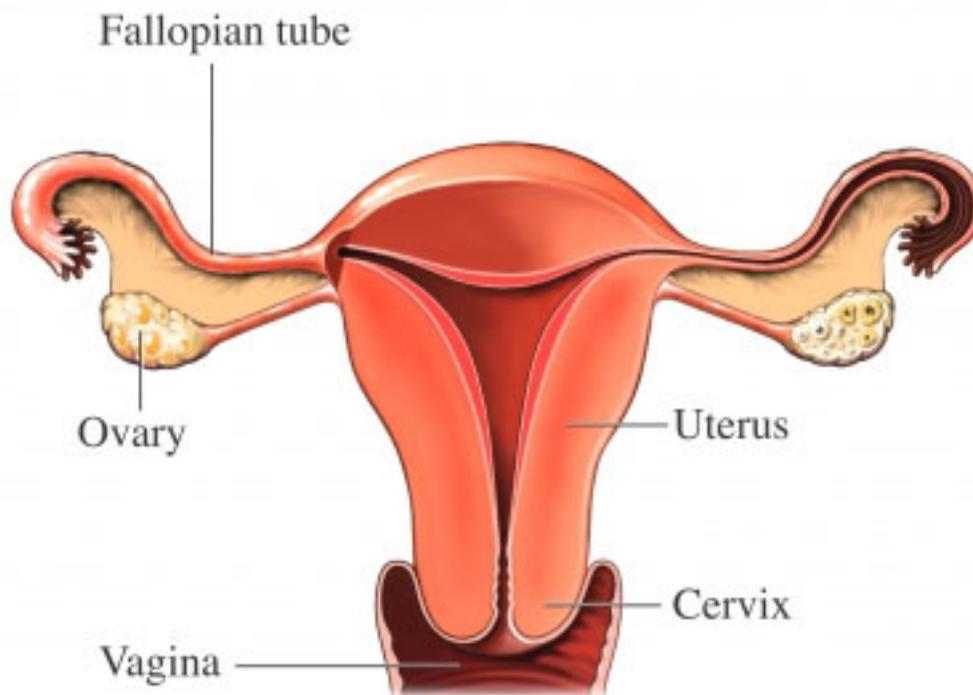
Begin reproductive years  
Periods begin  
Physical changes  
Emotional changes  
Behavioral changes  
Difficult for family members  
Some aspects are temporary;  
others are permanent

Menopause

End reproductive years  
Periods end  
Physical changes  
Emotional changes  
Behavioral changes  
Difficult for family members  
Some aspects are temporary;  
others are permanent

C. Anatomy

1. **Cervix** – doorway in & out of the uterus
2. **Uterus** – baby carriage for a fertilized egg
  - a. Inner lining *responds* to hormones
  - b. Outer muscle contracts, relaxes, & stretches
3. **Fallopian tubes** – highway between the uterus & ovaries for egg transport
4. **Ovaries** – *Egg* & hormone factory
5. The *ovaries* are the organs of importance in menopause



6. "I don't know which surgical procedure I've had."
  - a. -ectomy = removal of
  - b. Hyster = uterus
  - c. Total = uterus & cervix
    - 1.) Notice: ***This has nothing to do with the ovaries!***
  - d. Subtotal or partial = uterus without cervix
    - 1.) Notice: ***This has nothing to do with the ovaries!***
  - e. Uni = one
  - f. Bi = two
  - g. Lateral = side (Right or Left)
  - h. Salpingo or salpinx = fallopian tube
  - i. Oophor = ovary
  - j. Total vs Subtotal (Partial) Hysterectomy
    - 1.) The uterus & the cervix are one structure.
      - a.) Think of the uterus & cervix as an upside-down pear!
      - b.) If you remove the entire "pear," you've done a "Total Hysterectomy."
      - c.) If you separate the narrow portion at the bottom of the "pear" from the wider portion at the top of the "pear," you've done a "Subtotal or Partial Hysterectomy."

- k. By combining these words, you define the procedure.  
For example:  
Total Hysterectomy, Right Unilateral Salpingo-oophorectomy =  
Removal of the uterus with the cervix, and removal of the right fallopian tube and ovary.
- l. When in doubt, just list the body parts that were removed.
- 7. Surgical & Premature Menopause are special categories.
  - a. Surgical menopause
    - 1.) Sudden rather than gradual menopause
    - 2.) Results from surgery, chemotherapy, or radiation therapy
  - b. Premature menopause – menopause before age 45
    - 1.) Early menopause, with exaggerated health risks

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### III. Terminology: The Language of Menopause

#### A. Hormones

1. Estrogen – Primary female hormone
    - a. Makes your skin soft, your voice high in pitch, & your features dainty
    - b. Menopause occurs as a result of estrogen loss.
    - c. Reproductive range = 50 – 150 pg/ml
    - d. Menopausal range = 0 – 45 pg/ml
  2. Progesterone – “pro” = for, “gest” = gestation (pregnancy), “one” = hormone
    - a. Acts in harmony with estrogen during your reproductive years
    - b. Calming, sedative, relaxing, anti-anxiety hormone
    - c. Reproductive range = 10 - 15 ng/ml
    - d. Menopausal range = < 0.5 ng/ml
- \* **Important:**  
*Estrogen & progesterone are partners; they act in harmony with one another throughout your reproductive life.*  
*Estrogen thickens the lining of your uterus.*  
*Progesterone stabilizes your thickened uterine lining.*  
*Then, a rapid drop in progesterone causes your thickened uterine lining to shed, which is what you recognize as your period.*
3. Testosterone – male hormone
    - a. Produced in your ovaries & your adrenal glands
    - b. Causes coarse, thick hair, rough skin, acne, & increased sex drive
    - c. Decreases by 40 – 60 % with natural menopause
    - d. Decreases by 80% with surgical menopause
    - e. Reproductive range for females = 0.4 -1 ng/ml
    - f. Menopausal range = 0.1 – 0.3 ng/ml
  4. Follicle Stimulating Hormone (FSH)
    - a. Produced in your brain, & travels to your ovaries, inducing them to produce eggs & estrogen.
    - b. FSH level fluctuates throughout your menstrual cycle.  
(Normal range in reproductive years 2 – 15 mIU/ml)
    - c. FSH level rises at menopause when your ovaries fail to produce estrogen. (Normal range for menopause >30 mIU/ml)
  5. Luteinizing Hormone (LH)
    - a. Produced in your brain & travels to your ovaries, inducing them to produce progesterone.
    - b. LH level fluctuates throughout your menstrual cycle  
(normal range in reproductive years = 2 – 20 mIU/ml)
    - c. FSH level rises at menopause when your ovaries fail to produce estrogen. ( Normal range for menopause = / > 40 mIU/ml)

B. Phases of menopause

1. Pre-menopause – “Pre” = before, “Meno” = menstruation, “Pause” = stops
  - a. Before the transition into menopause begins
  - b. Consists of regular periods
2. Peri-menopause – “Peri” = time surrounding or near, “Meno” = menstruation, “Pause” = stops
  - a. The time between the beginning of the menopausal *transition* until the end of the menopausal *transition*.
  - b. Analogy: the time between the beginning of puberty & the end of puberty.
  - c. Spans the time from your first sign of menopause until you have skipped periods for 12 consecutive months.
  - d. May be intermittent or continuous.
  - e. May last from 2 – 10 years (typically between ages 40 & 50).
  - f. Begins with decreased progesterone levels, which causes failure to ovulate & increased estrogen
  - g. Results in erratic estrogen and FSH levels
  - h. **Beware** of pregnancy... with increased likelihood of twins!
3. Post-menopause – Post = after, Meno = menstruation, Pause = stops
  - a. Defined by no periods for 12 consecutive months
  - b. Your ovaries go out of business...& FSH skyrockets
  - c. Average age 51
  - d. You then remain post-menopausal for the rest of your life, amounting to 1/3 – 1/2 of your entire life.
  - e. During all these post-menopausal years, your needs (health, emotional) & preferences will change. You will manage your menopause again & again.
  - f. The important message is this: *Post-menopause* is *not* just a phase; it's a *lifestyle* which lasts for the rest of your life.
4. You will commonly see or hear the word “menopausal” to refer to both peri- and post-menopause.

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**IV. Diagnosis of Menopause**

- A. It's as obvious as puberty
  - 1. You, and everyone around you will probably notice some changes in your demeanor, behavior, & body.
- B. It differs from one woman to another.
  - 1. You are unique
  - 2. Don't expect your menopause to mimic anyone else's.
- C. Signs & Symptoms of Menopause:
  - 1. Menstrual periods become farther apart
  - 2. Hot flashes
  - 3. Night sweats
  - 4. Insomnia
  - 5. Fatigue
  - 6. Forgetfulness
  - 7. Mood swings
  - 8. Irritability
  - 9. Depression
  - 10. Cravings for sweets, carbohydrates, alcohol
  - 11. Breast pain
  - 12. Joint stiffness & joint pain
  - 13. Dry skin
  - 14. Hair loss on the scalp
  - 15. Hair growth in undesirable locations
  - 16. Vaginal dryness
  - 17. Urinary tract infections
  - 18. Urinary incontinence
  - 19. Weight gain
  - 20. Decreased or increased sex drive
  - 21. Acne
  - 22. Headaches
- D. Notice how the signs and symptoms of menopause resemble those of adolescence, pregnancy, & aging:
  - 1. Some resemble adolescence:
    - a. Mood swings
    - b. Irritability
    - c. Depression
    - d. Cravings for sweets & carbohydrates
    - e. Weight gain
    - f. Acne
    - g. Increased sex drive
    - h. Headaches

2. Some resemble pregnancy
    - a. Hot flashes
    - b. Night sweats
    - c. Insomnia
    - d. Fatigue
    - e. Mood swings
    - f. Irritability
    - g. Cravings for various foods
    - h. Breast pain
    - i. Urinary problems (leaking & UTI)
    - j. Weight gain
  3. Some resemble aging
    - a. Less frequent periods
    - b. Insomnia
    - c. Fatigue
    - d. Forgetfulness
    - e. Joint stiffness & joint pain
    - f. Dry skin
    - g. Hair loss
    - h. Hair growth in undesirable locations
    - i. Dryness of the vagina
    - j. Urinary problems (leaking)
    - k. Weight gain
    - l. Decreased sex drive
- E. Signs & symptoms of menopause are not exclusive to menopause.
1. A variety of other diseases have some of the same signs & symptoms (thyroid diseases, depression, dementia, malnutrition.)
- F. In general, if it *sounds* like menopause, & *feels* like menopause, & others *suspect* it's menopause...it probably **IS** menopause!
- G. Blood FSH
1. FSH travels from your brain to your ovaries to make the ovaries produce estrogen.
  2. If your ovaries fail to produce estrogen, the FSH skyrockets.
  3. During peri-menopause, FSH is a **rollercoaster**.
  4. Normal ranges for FSH:
    - a. Pre-menopause: 2 – 15 mIU/ml
    - b. Peri-menopause: *Rollercoaster!!!*
    - c. Post-menopause: > 30 mIU/ml
  5. Estrogen from other sources will affect your FSH level, so discontinue all estrogen therapy before getting the lab test.
  6. If your intuition & the lab results are at odds with one another, I believe you more than I believe the lab value.

- H. Salivary Hormone Levels
  - 1. Can test
    - a. Estrogen
    - b. Progesterone
    - c. Testosterone
  - 2. More flexible, but less accurate than FSH
  - 3. Familiar to D.O.s & Naturopaths (N.D.s); not to Medical Doctors (M.D.s)
- I. Timing for all menopause tests
  - 1. Check at the same time in each cycle (best on days 20 – 23).
  - 2. Repeat for comparison



- a. You want to feel good & maintain good health now & later.
- C. Possible options
1. Do nothing
  2. Manage only your current symptoms of menopause to improve your immediate quality of life (short term focus)
  3. Manage your menopause with the primary goal of preventing problems in the future (long term focus)
  4. Combination of short term & long term goals
- D. Questions to ask yourself
1. Do you want to pursue any form of management or treatment at all?
  2. If yes, then what form of management do you prefer (theoretically)?
    - a. Medical therapy with hormones or non-hormonal medications
    - b. Alternative & complementary products
- E. Categories of management options
1. Do nothing
  2. Diet & lifestyle changes
  3. Alternative & complementary medicine
    - a. Vitamins
    - b. Minerals
    - c. Botanicals
    - d. Herbs
  4. Acupuncture or hypnosis
  5. Medical therapy with hormones
    - a. Natural
    - b. Bioidentical
    - c. Synthetic
  6. Medical therapy without hormones (non-hormonal medications)
  7. Some combination of the above
- F. Disconnects
1. Be realistic with yourself about what you will or will not actually do.
  2. Your brain & your body may not agree.
    - a. Eg: Birth plans

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**VI. Options: Medical, Non-medical, & Everything in Between**

A. Diet & Lifestyle

1. Four things that impact almost everything:
  - a. Healthy diet
  - b. Regular exercise
  - c. Maintenance of appropriate body weight
  - d. Refraining from smoking

B. “Dietary Pearls”

1. Diet plays a huge part in your overall health
  - a. You are what you eat
  - b. You are what you eat eats
2. You can't control your diet completely, but you can make a huge difference in your health with the dietary aspects you *can* control
3. Transit Time
  - a. When it comes to many gastrointestinal cancers, it's all about transit time = How long it takes for the food to go from your mouth to the toilet
  - b. The faster food travels through your system, the less opportunity it has to form toxins (free radicals) & cause cancer
  - c. The longer it takes for food to sludge its way through your digestive tract, the more opportunity it has to form toxins & cause cancer
  - d. Foods high in animal fat, preservatives, & insecticides are cancer-causing foods
  - e. High fiber foods have high transit times
4. Seasonal Foods
  - a. Foods are *supposed* to be seasonal
    - 1.) They grow in different types of soil at different times of year
  - b. When you can get foods all year round, it's because:
    - 1.) They're grown under artificial conditions
    - 2.) They're grown far away & transported to you
    - 3.) They're picked long before they're ripe & ripened under artificial conditions
5. Processed Foods
  - a. The more authentic a food, the better its nutrients
    - 1.) Raw foods have the most nutrients
  - b. The more altered a food, the worse its nutrients
  - c. Fast foods & packaged foods are more processed
  - d. Convenience is inversely proportional to nutrition
6. Preserved Foods & Preservatives
  - a. Food isn't *supposed* to last for weeks or months!
  - b. Frozen, canned, & packaged foods are full of preservatives

- c. Where you live makes a big difference in what's "normal"
      - 1.) Bread in France vs bread in the U.S.
- 7. Animal versus Vegetable
  - a. It matters a great deal whether your diet is animal-based or vegetable-based
  - b. Animal-based diets
    - 1.) High in animal fat (the bad fat)
    - 2.) Contain animal hormones
    - 3.) Slow transit time
  - c. Vegetable-based diets
    - 1.) High in Omega 3 fats (the good fat)
    - 2.) High in fiber
    - 3.) Fast transit time
  - d. The healthiest diets are vegan diets
- 8. Meat
  - a. You don't really know where your meat came from
  - b. You don't know what your meat ate
  - c. Hormones in meat change your own hormonal status
- 9. Insecticides & Pesticides
  - a. Insects like food, too
  - b. To keep the insects from eating the food we want to eat, farmers use pesticides & insecticides
    - 1.) How much of these toxins remain in the foods is unpredictable
- 10. The Better Your Diet, The More You Fart
  - a. It's all about transit time
  - b. Faster transit = more farts
  - c. Farting is directly related to how much fiber you eat
- 11. Lactose Intolerance
  - a. Lactose is the substance in dairy products that makes them dairy products
    - 1.) Milk
    - 2.) Cheese
    - 3.) Butter
    - 4.) Cream
    - 5.) Yogurt
  - b. How many animals continue to ingest dairy products beyond the stage of weaning? Only humans
  - c. How many animals ingest the dairy product of a different animal? Only humans
  - d. Most adult humans have some degree of difficulty digesting dairy products
  - e. Some are able to digest dairy products that are already partially degraded
    - 1.) Cooked milk
    - 2.) Yogurt

- 3.) Certain types of cheese
  - f. Might it be that we're not supposed to continue ingesting dairy?
  - g. As we age, we lose the enzyme necessary to digest dairy products: Lactase
    - 1.) Lactase deficiency = lactose intolerance
- 12. Eating Out Versus Eating In
  - a. Your weight is proportional to how much you eat "out"
  - b. Eating out includes eating on the run, eating in airports & airplanes, ordering in, etc.
  - c. You never really know what's in restaurant food, do you?
  - d. Restaurants may use preserved or processed foods & disguise them as "fresh"
  - e. The better your diet, the more difficult it is to eat out
- 13. Skipping Meals
  - a. Contrary to popular belief, skipping meals does *not* make you lose weight
    - 1.) Skipping meals slows your metabolism & makes you *gain* weight
    - 2.) Never skip breakfast; it jump starts your metabolism
- 13. Dining Times
  - a. As chic as eating late may be, it isn't the best thing for your body
  - b. Eat your last meal at least 3 hours before you go to bed
  - c. In countries where dinnertime is at 10 PM, the people stay up well past midnight
- 14. Your Biggest Meal
  - a. There's a saying:  
Eat breakfast like a king,  
lunch like a queen,  
& dinner like a pauper
  - b. Your large meals should be early in the day
  - c. Eat a large lunch instead of a large dinner
- 14. Experimental Diets
  - a. "Diet," not "dieting"
  - b. If you don't experiment a bit, you won't know what works best for your body
    - 1.) How I became a vegan
  - c. Your brain, your taste buds, & your digestive tract may not agree
- 15. Water
  - a. Whatever your diet, drink loads of water
  - b. It flushes out the bad stuff
  - c. It dilutes the overindulgent stuff
  - d. It makes your skin happy & pretty
  - e. It helps prevent UTIs
- 16. Alcohol

- a. No nutritional value; only social value
  - b. Lots of calories
  - c. Addictive properties
  - d. Dehydrates
  - e. Eventually interferes with sleep
  - f. 2 glasses of red wine:
    - (1) Good for preventing a heart attack
    - (2) Borderline for increasing osteoporosis risk
    - (3) Bad for preventing breast cancer
17. Read food package labels for ingredients & nutrition information
- a. What you discover may shock you
  - b. There's a lot of misrepresentation on food packages
  - c. If you can't pronounce it, maybe it's not a food at all
  - d. Ingredients are listed in order of quantity
  - e. Look at the nutrition information

### C. Lifestyle Pearls

1. Get your exercise
  - a. Most important pearl of all (See D.)
2. Don't smoke
  - a. There's not one single good thing about smoking
    - (1) It gives you lung cancer
    - (2) It increases your risk for a bunch of other cancers
    - (3) It increases your risk for a heart attack
    - (4) It stains your teeth
    - (5) It makes you stink
    - (6) It wastes your time
    - (7) It costs as much as a gold mine
    - (8) It's unrefined
3. Maintain a normal weight
  - a. Almost everything is related to your weight
  - b. Your weight carries a lot of weight
4. Get your sleep
  - a. It's a luxury
  - b. Everything depends on it
  - c. Same time every night
  - d. Wake without an alarm
  - e. Do you even *know* how many hours of sleep your body wants each night?
5. Adhere to routines
  - a. Sounds boring, but it's what the body wants
  - b. Every other animal on earth adheres to routines. Why not us?
6. Avoid the sun
  - a. The sun is not a friend to your skin
  - b. Sunscreen is overrated
    - (1) It doesn't protect your skin from sun exposure or prevent sun damage

- (2) It only slows the rate of damage to your skin
    - (3) Why does everyone seem to think tan skin is more appealing, anyway?
  - c. You need to cover your skin with clothing
    - (1) Long sleeves
    - (2) Hats
    - (3) Gloves
- 7. Practice good hygiene
  - a. Dental
  - b. Skin
  - c. Facial
  - d. Body
  - e. Vaginal
- 8. Life balance
  - a. Work : Play
  - b. Family time : Personal time
  - c. Family : Friends
  - d. Food intake : Exercise output
  - e. Embracing aging : Fighting aging
- 9. Don't conform / Think for yourself
  - a. Make your menopause look however you want it to look
  - b. Make your choices with conviction & stick by them
- 10. Pursue a passion
  - a. Be passionate about something in life; it will make your heart sing
- 11. Adopt a stress reducing / Relaxation technique
  - a. Yoga
  - b. Massage
  - c. Music
  - d. Incorporate it into your life on a regular basis & as needed
- 12. Pamper yourself
  - a. You deserve to feel good about how you treat yourself
  - b. How you treat yourself is a reflection of your self value
- 13. Take up a hobby
  - a. Do something that makes you feel creative
    - (1) Sing in a choir
    - (2) Sew
    - (3) Paint
- 14. Create your own identity
  - a. It's nice to be someone's wife or mother
  - b. It's better to be yourself
  - c. Whose life is it, anyway?
  - d. What comes after your comma?
- 15. Say, "No!"
  - a. You don't have to please everyone
  - b. You don't have to please anyone but yourself

- c. Pleasing yourself will make you more pleasing to everyone else
  - d. Don't overload your "To Do" list
16. Don't be a doormat
- a. You've probably spent the last 30 years catering to everyone else in your family
  - b. Aren't you tired of having everyone walk all over you?
  - c. Pick up the rug & see the beautiful foundation you've been hiding
17. Enjoy the journey
- a. As you migrate through the change, enjoy the metamorphosis
  - b. Everything in life is a process
  - c. Cultural differences in attitudes about menopause
  - d. Slow down!
    - (1) What's the rush?
    - (2) Take a deep breath
    - (3) Road rage
18. See the world through different eyes
- a. Travel
  - b. Work with people different from yourself
  - c. Offer help to the needy or ill
19. Never, never stop learning
- a. The more you learn, the more you realize how little you know
  - b. Take a class
  - c. Learn a new language
  - d. Learn to paint or dance
  - e. Feed your brain fresh food
20. Have sex
- a. It used to be fun
  - b. Find ways to make it fun again
  - c. Laugh at yourself
21. Have Fun!
- a. Live it up
  - b. Most people live like they're never going to die & die without ever having lived
    - (1) Don't be one of them

#### D. Exercise Pearls

1. Exercise variety
2. Make exercise a convenient habit
3. Do whatever works for *you*
4. Exercise different standards for different goals
  - a. To prevent a heart attack: 20 minutes, 3 times a week, at target heart rate
  - b. To maintain your weight: *Daily* aerobic exercise
  - c. To lose weight: Requires burning 3500 more calories than you eat for every 1 pound of weight loss
  - d. For body sculpting or muscle building, increase your protein

intake & do specific exercises

5. Learn new exercises
  6. Be creative with your exercise
  7. Tailor to your own needs, capabilities, & interests
    - a. You don't have to have speed, heft, or impact
  8. Don't forget the functional stuff (balance & flexibility)
  9. Make it fun
  10. Don't forget the payoff
    - a. Give exercise 2% of your time, and it will give you a lifetime
  11. Enjoy the compliments
- E. Basic Principles of the 2 Camps: Alternative & Complimentary vs Traditional Medicine
1. Alternative & Complimentary Medicine
    - a. "Natural" *does not* mean safe or effective.
    - b. Dangerous drug-herb interactions do occur.
    - c. Botanicals are not standardized, so there is variability in the content & efficacy from one batch to another, even for an individual manufacturer.
    - d. Lack of quality control & regulation may result in contamination, adulteration, or misidentification of plant products.
    - e. You should not take botanicals or herbs in doses that are higher than recommended or for a duration that is longer than recommended.
    - f. When your doctor asks what medications you're taking, *always* include *all* your botanicals & herbs.
  2. Hormones
    - a. Begin with low dose therapy in order to:
      - 1.) Allow you to adjust the dose to the perfect level that provides the desirable results without taking more than you need.
      - 2.) Avoid or reduce side effects.
      - 3.) Achieve the appropriate dose for your age.
    - b. You are *not eligible* for hormones if:
      - 1) You refuse to take them
      - 2) You are pregnant
      - 3) You have unexplained vaginal bleeding
      - 4) You have chronic liver disease
      - 5) You have a history of blood clots
      - 6) You have or have had a cancer that is dependent on or worsened by hormones.
  3. In general, the (conventional) medical world focuses more on estrogen, & the alternative & complimentary world focuses more on progesterone.

4. Professionals:
    - a. Conventional (Allopathic) medicine
      - 1.) Medical Doctors (M.D.s)
      - 2.) Doctors of Osteopathic Medicine (D.O.s)
      - 3.) Pharmacists
    - b. Alternative & Complementary Medicine
      - 1.) Naturopathic Doctors
      - 2.) Herbalists
      - 3.) Botanists
      - 4.) Acupuncturists
      - 5.) Hypnotists
    - c. Both
      - 1.) Doctors of Osteopathic Medicine (D.O.s)
      - 2.) Dieticians
      - 3.) Nutritionists
      - 4.) Fitness Specialists
- F. Pharmaceutical Drugs versus Alternative & Complementary “Dietary Supplements”
1. Pharmaceutical Drugs
    - a. Drug – a product used to diagnose, cure, mitigate, treat, or prevent disease
    - b. Regulated by the Food & Drug Administration (FDA)
    - c. Approval by FDA requires 12 years, over \$350 million per drug, & 3 phases of clinical trials
    - d. Pharmaceutical research costs \$12.6 billion per year
    - e. Drugs are considered *unsafe until proven safe*
    - f. Manufacturers have to provide FDA with evidence of safety & effectiveness *before* marketing the drug
    - g. After marketing, FDA follows up on adverse effects
    - h. Quality & Consistency
      - 1.) Guaranteed by FDA approval
  2. Dietary Supplements
    - a. Dietary Supplement – a product intended to supplement the diet, including
      - 1.) Vitamins
      - 2.) Minerals
      - 3.) Herbs
      - 4.) Botanicals
      - 5.) Amino acids
    - b. Regulated by manufacturer rather than by FDA
    - c. Approval requires manufacturer to follow “current good manufacturing practices”
      - 1.) Claims about the supplement’s function must be followed by, “This statement has not been evaluated by the U.S. Food and Drug Administration

- (FDA). This product is not intended to diagnose, treat, cure, or prevent any disease.”
- d. Manufacturers are not required to conduct clinical trials
  - e. Dietary supplements are considered *safe until proven unsafe*
  - f. Manufacturers *do not* have to provide FDA with evidence of safety & effectiveness *before* marketing the drug
  - g. Dietary Supplement Health & Education Act (DSHEA) can find the supplement unsafe only after it has entered the market & caused harm
    - 1.) Only then will FDA have permission to remove a product
  - h. Quality & Consistency
    - 1.) The terms, “standardized,” “verified,” and “certified” do not guarantee product quality or consistency
    - 2.) An herbal supplement may contain dozens of compounds; all of its ingredients may not be known.
    - 3.) What’s on the label may not be what’s in the bottle
      - a.) An herbal supplement may not contain the correct plant species.
      - b.) The quantities of the ingredients may be greater than or less than stated on the label.
      - c.) The dietary supplement may be contaminated with other herbs, pesticides, toxic metals, germs
      - d.) The dietary supplement may be adulterated with unlabeled, illegal ingredients.
      - e.) Some ingredients are not listed on the label at all (substitutions or fillers).
      - f.) Some herbal suppliers mix or substitute their crops with less expensive or more readily available plants.
      - g.) Accidental contamination occurs when one plant grows in with another.
  - i. Recommendations
    - 1.) Do not buy:
      - a.) Products that claim to work like prescription drugs
      - b.) Products that are advertised through mass e-mails
      - c.) Products marketed in a foreign language
      - d.) Products that promise weight loss, body-building, or enhancement of sexual performance
    - 2.) Look for objective, research-based information to evaluate a product’s claims:
      - a.) Ask your doctor or pharmacist.
      - b.) For scientific research findings, consult:

- (1) National Center for Complementary and Alternative Medicine (NCCAM)
- (2) Office of Dietary Supplements
- c.) Contact the manufacturer
- 3.) Talk with your doctor before trying herbal supplements, especially if:
  - a.) You are taking over-the-counter meds
  - b.) You are going to have surgery
  - c.) You are older than 65
- 4.) Safety tips
  - a.) Follow supplement instructions.
  - b.) Keep track of what you take, using only one supplement at a time, along with records of its effects
  - c.) Be cautious about supplements manufactured in other countries
  - d.) Check alerts & advisories

	<b>Pharmaceutical Drugs</b>	<b>Dietary Supplements</b>
<b>Purpose</b>	Diagnose, cure, mitigate, treat, or prevent disease	Supplement the diet. Not intended to diagnose, cure, mitigate treat, or prevent disease
<b>Regulation</b>	FDA regulated	Non-FDA regulated Manufacturer only
<b>Approval</b>	Strict, lengthy, expensive	Requires “current good manufacturing practices”
<b>Research</b>	Extensive & expensive	No clinical trials
<b>Safety &amp; Effectiveness</b>	Unsafe until proven safe Must prove before marketing	Safe until proven unsafe No need to prove before marketing
<b>Quality &amp; Consistency</b>	Guaranteed	No guarantees

## G. Botanical & Herbal Therapy

### 1. Definitions

- a. Botanical & herbal therapy = use of plant products with special properties to manage menopause.
- b. Herbal therapy = use of only the stems & leaves (no seeds, flowers, fruit, buds, or roots).
- c. Botanical therapy = use of products derived from any part of a plant, including the seeds, flowers, fruit, buds, & roots.

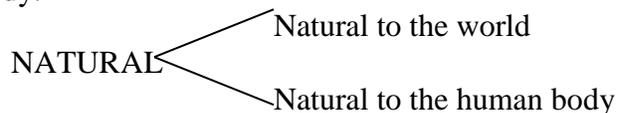
### 2. Standards

- a. Botanical & herbal therapies only have to meet the standards

- for foods rather than those for drugs.
- b. Purity, quality, & consistency vary greatly
- 3. Forms of botanicals & herbs
  - a. Bulk herbs = raw or dried plants: whole, pulverized, or powdered
  - b. Oils = concentrated, fat soluble chemicals that come from herbs, for external use.
  - c. Tablets or capsules = compounded forms of an herb to provide easy use & a fixed dose.
  - d. Teas = extractions of the soluble (dissolved) part of an herb with hot water. The potency depends on steeping or boiling time.
    - 1.) Teas – brewed (steeped) for 1 -2 minutes
    - 2.) Infusions – brewed (steeped) for 20 – 30 minutes
    - 3.) Decoctions – boiled for 20 -30 minutes
  - e. Tinctures = alcohol extracted concentrates that are added to water & placed directly in your mouth or under your tongue.
- 4. Drug-like properties & effects of botanicals & herbs are directly related to the *quantity* of herb you ingest.
- 5. The strength of a botanical or herb may depend on the part of the plant from which it comes.
  - a. The strongest, purest, & most effective botanicals consist of the whole plant.

H. “Natural” Versus “Synthetic” Hormones

- 1. Natural = a substance *found in nature* that we utilize in its natural form.
  - a. Examples
    - 1.) An herb in its natural form or compressed into a tablet
    - 2.) Natural pharmaceutical products of *either plant or animal* origin
- 2. Natural may also refer to something that is of *neither plant nor animal* origin & is *not found in nature*.
  - a. “Natural” may refer substances that are made with molecules which are *identical to the molecules in the human body*.
  - b. We call such substances “Bioidentical.”
- 3. So, a natural substance may be natural to the world or natural to the human body.



- 4. Synthetic = a product which results from *combining* substances together.
  - a. The word synthetic focuses on how the product was *created*, not on the origin of its components.
  - b. It may refer to *either natural or synthetic products*.

1.) Components may be substances that exist in nature (natural)

OR

2.) Components may be artificially constructed (synthetic)

c. Examples

1.) Cenestin is an estrogen pill synthesized from plants. Therefore, it is a natural substance of plant origin synthesized into a pill by a pharmaceutical company

2.) Premarin is an estrogen pill synthesized from horse urine. Therefore, it is a natural substance of animal origin synthesized into a pill by a pharmaceutical co.

3.) Evista is synthesized from chemicals in a lab to create a drug to prevent osteoporosis. It is 100% synthetic, & has no natural components.

I. Bioidentical Hormones

1. These are hormones synthesized from substances containing molecules identical to the molecules in the human body.

2. They tend to produce fewer side effects because the human body recognizes them as less foreign & metabolizes them more easily.

3. Molecules that are identical to human molecules “fit” better than those that are not. (Eg: puzzle pieces)

4. Bioidentical hormones are both synthetic & natural.

a. Synthetic because they are created by combining other substances

b. Natural because the substances from which they are created have molecules that are identical to those in the human body.

c. Natural also because the substances used to create them often come from plants.

5. Compounding = the process of combining substances.

a. Compounding pharmacies custom-make bioidentical hormones according to your doctor’s specifications.

b. However, not all custom hormones are bioidentical.

J. Acupuncture

1. Involves puncturing the body with thin needles in specific locations.

2. The needles are augmented by low voltage current, sound waves, or laser beams.

3. Manipulates the flow of energy in the body.

4. May improve hot flashes, night sweats, insomnia, mood swings, & anxiety.

K. Hypnosis

1. Very little scientific data, but harmless

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**VII. Categories of Hormones & Their Sources**

*Note:* No hormone acts in a vacuum.

Some symptoms result from combinations of hormones.

Some symptoms represent the predominant hormone

Some symptoms result from counteracting hormones

**A. Estrogen**

**1. Symptoms of Abnormal Estrogen Levels**

**a. Estrogen Deficiency**

Less frequent/absent periods  
Hot flashes  
Night sweats  
Insomnia  
Fatigue  
Forgetfulness  
Mood swings  
Irritability  
Stiffness/joint pain  
Dry skin  
Hair loss  
Vaginal dryness  
Urinary tract infections  
Incontinence  
Decreased sex drive

**Estrogen Excess**

Increased/excessive periods  
Digestive problems (nausea, vomiting)  
Food cravings  
Breast pain & tenderness  
Weight gain  
Bloating  
Depression  
Vaginal yeast infections  
Headaches  
Leg cramps

**2. Categories of Estrogen**

**a. Plant (Botanical/Herbal) = natural & not synthetic**

**1.) Phytoestrogens (Phyto = plant, estrogen = estrogen) -  
Plant sources of estrogen**

**a.) 3 kinds**

- (1) Isoflavones = tofu, tempeh, miso, soybeans, garbanzo beans
- (2) Lignans = flaxseeds, pumpkin seeds, sunflower seeds, cranberries, black & green teas, garlic, broccoli, bran, peanuts
- (3) Coumestans = red clover, bean sprouts

- b.) Much weaker than human estrogen (1/100 – 1/1000 as strong)
  - (1) Affinity = Attraction
    - (a) How much of an attraction a hormone has for a receptor.
  - (2) Binding = Activation
    - (a) How well a Hormone fits into a receptor site
    - (b) A hormone isn't active until it binds
  - (3) Phytoestrogens have either an enhancing (estrogenic/positive) or a diminishing (anti-estrogenic/negative) effect on overall estrogen level.
    - (a) Estrogenic/positive effect if the circulating level of estrogen is low, because they increase the total amount of estrogen in the body. (They fill an estrogen receptor with a weak estrogen rather than leaving it empty with no estrogen.)
    - (b) Anti-estrogenic/negative effect if the circulating level of estrogen is high, because they decrease the total amount of estrogen in the body by inhibiting binding of the stronger human estrogen.
- c.) Phytoestrogens do *not* increase the risk of breast or uterine cancer.
- d.) Phytoestrogens decrease the risk of heart attacks & many cancers.
- e.) Phytoestrogens exert their effects much more slowly than bioidentical hormones or synthetic hormones.

- 2.) Benefits of phytoestrogens from food sources
  - a.) Soy (the wonder food)
    - (1) Helps regulate periods
    - (2) Decreases hot flashes
    - (3) Decreases night sweats
    - (4) Decreases mood swings
    - (5) Decreases irritability
    - (6) Decreases PMS
    - (7) Decreases dry skin
    - (8) Decreases hair loss
    - (9) Strengthens nails
    - (10) Decreases weight gain
    - (11) Decreases loss of calcium
    - (12) Decreases risk of breast cancer
    - (13) Decreases risk of uterine cancer
    - (14) Helps prevent heart attacks
    - (15) Prevents osteoporosis
    - (16) Decreases risk of colon cancer
    - (17) Decreases migraine headaches
  - b.) Flaxseed (1 tsp -1 tbsp/day, crushed)
    - (1) Anticancer agent
    - (2) Antioxidant; prevents aging
    - (3) Excellent source of fiber
    - (4) Excellent source of omega 3 fatty acids
- 3.) Botanical/Herbal Estrogens
  - a.) Dong Quai
  - b.) Chasteberry
  - c.) Black Cohosh
  - d.) Licorice Root
  - e.) St. John's Wort
  - f.) Valerian
  - g.) Hops
  - h.) Motherwort
  - i.) Joyful Change
  - j.) Chai Hu Long Giu Muli Wang
- b. Bioidentical Estrogen
  - 1.)
 

<u>3 forms</u>	<u>Human</u>	<u>Tri-est</u>	<u>Bi-est</u>
a.) Estrone	10%	10%	0%
b.) Estradiol	10%	10%	20%
c.) Estriol (weakest)	80%	80%	80%
  - 2.) Personal formulations conform to your hormone tests & menopausal symptoms.
    - a.) The acceptable level of estriol = 60 – 100 pg/ml

- 3.) Available as pills, skin patches, & vaginal preparations
  - a.) Skin absorption is most direct & allows a lower dose.
  - b.) Oral forms are associated with a higher incidence of blood clots.
- 4.) You get these preparations from a compounding pharmacy.
  - a.) They may not be covered by insurance.
- 5.) Regulated by federal standards.
  - a.) No regulation agency for purity & potency
  - b.) Midway between botanicals/herbals & pharmaceuticals (> foods, < drugs)
- c. Synthetic Estrogen
  - 1.) Pills
    - a.) Metabolized by the liver
    - b.) Increase healthy HDL, but also increase triglycerides, glucose, & blood clots
  - 2.) Shots
  - 3.) Estrogen Vaginal Rings (3 month duration)
    - a.) Provide the extra estrogen that the vagina needs & also send estrogen throughout the body.
  - 4.) Estrogen Skin Patches (3 days or 7 days)
    - a.) Absorbed through fat: abdomen, buttocks, or thigh
    - b.) No harmful effects on the liver
    - c.) Decrease triglycerides & blood clots
    - d.) Problems with adherence & rashes
  - 5.) Estrogen Gels, Lotions, Sprays
    - a.) Apply to a large area of skin & let dry.
    - b.) Do not harm the liver.
    - c.) Cause less blood clotting than oral estrogens
    - d.) Increase healthy HDL, but also increase triglycerides & glucose.
  - 6.) Estrogen Pellets
    - a.) Implanted beneath the skin surface
    - b.) For long term use
    - c.) Release a constant stream of estrogen
  - 7.) Estrogen Vaginal Creams
    - a.) Provide extra estrogen for the vagina, with little absorption into the blood stream.
    - b.) Do not increase the risk of breast cancer
  - 8.) Vaginal Estrogen Tablets
    - a.) Similar to vaginal creams

- d. Selective Estrogen Receptor Modulators (SERMs)
  - 1.) These are *non-hormonal* medications with some effects that are similar to estrogen, and others that are not similar to estrogen.
  - 2.) Synthetic products which bind with estrogen receptors
    - a.) “Selective” because they combine with only some estrogen receptors in only some parts of the body & not with others.
      - (1) Breast
      - (2) Heart
      - (3) Bone
      - (4) Uterus
    - b.) “Modulators” because they modulate or manipulate the effects of estrogen.
      - (1) Some beneficial (friendly) (+) effects
      - (2) Some detrimental (unfriendly) (-) effects
      - (3) Some neutral (0) effects on a body part or organ
    - c.) Examples:
      - (1) A SERM is friendly to the breast if it decreases the risk of breast cancer. It’s unfriendly to the breast if it increases the risk of breast cancer.
      - (2) A SERM is friendly to the heart if it decreases the risk of a heart attack. It’s unfriendly to the heart if it increases the risk of a heart attack.
      - (3) A SERM is friendly to the bones if it decreases the risk of osteoporosis. It’s unfriendly to the bones if it increases the risk of osteoporosis.
      - (4) A SERM is friendly to the uterus if it decreases the risk of uterine cancer. It’s unfriendly to the uterus if it increases the risk of uterine cancer.
      - (5) A SERM is neutral whenever it neither increases nor decreases the risk for disease.
  - 3.) They are an excellent option if you want some of the benefits of estrogen, but do not want to use estrogen in particular or hormones in general.

- 4.) Tamoxifen (Novaldex)
  - a.) Breast (+): Decreases the risk of breast cancer occurrence & recurrence.
  - b.) Heart (+): Decreases lousy LDL, & risk of heart attack
  - c.) Bone (+): Prevents osteoporosis
  - d.) Uterus (-): Increases the risk of uterine cancer because it thickens the lining of the uterus.
    - (1) Requires regular evaluation with ultrasound &/or uterine biopsy.
  - e.) Other risks: blood clots, visual disturbances, hot flashes.
  - f.) Good choice if you are at high risk for breast cancer, osteoporosis, & heart disease.
- 5.) Raloxifene (Evista)
  - a.) Bone (+) : Increases bone density, prevents osteoporosis
  - b.) Heart (+): Decreases the risk of heart attack
  - c.) Breast (0): Does *not* increase the risk of breast cancer
  - d.) Uterus (0): Does not increase the risk of uterine cancer;
  - e.) Has the same risk of blood clots as estrogen.
    - (1) You cannot use both raloxifene & estrogen.
- 6.) Bisphosphonates (Fosamax, Actonel, Boniva)
  - a.) Bone (+): Specific for prevention of osteoporosis only
  - b.) (0) No effect on the breast, uterus, or heart.
  - c.) Do not alleviate any of the symptoms of menopause.
  - d.) You can use estrogen with bisphosphonates
  - e.) Requirements for taking bisphosphonates:
    - (1) Take them first thing in the morning, before eating.
    - (2) Stand or sit upright for at least 30 minutes after taking them because they tend to creep back up the esophagus & irritate it.

- 7.) Tibolone
  - a.) Bone (+): Decreases osteoporosis
  - b.) Uterus (0): Does not increase the risk of uterine cancer
  - c.) Breast (0): Does not increase the risk of breast cancer
  - d.) Decreases hot flashes, night sweats, vaginal dryness, forgetfulness, & mood swings
  - e.) Increases the risk of blood clots.
  - f.) Only for *post-menopausal* women
    - (1) Side effects are vaginal bleeding & breast pain
- 8.) SERM + Estrogen Combinations  
(Bazedoxifene, Ospemifene)
  - a.) Bone (+): Specific for prevention of osteoporosis only
  - b.) (0) No effect on the breast, uterus, or heart.
  - c.) Alleviate vaginal dryness & painful intercourse

## B. Progesterone

1. Symptoms of Abnormal Progesterone Levels
 

<u>Progesterone Deficiency</u>	<u>Progesterone Excess</u>
Irregular or heavy periods	Fatigue or drowsiness
PMS	Depression
Anxiety	
Migraine headaches	
2. Progesterone is a chameleon hormone...it can convert itself into other hormones (testosterone, estrogen).
  - a. That's why some advocates for progesterone promote it as the solution for all menopausal symptoms.
3. Natural & synthetic forms of progesterone may produce very different effects in the same woman.
4. Natural & synthetic forms of progesterone may differ in their effect on various organs.
  - a. Heart: Bioidentical progesterone is better than synthetic progesterone
  - b. Breast: Bioidentical progesterone may protect against breast cancer, while synthetic progesterone does not.
  - c. Uterus: Synthetic progesterone prevents uterine cancer better than bioidentical progesterone does.
5. Categories of Progesterone
  - a. Botanical & Herbal Sources of Progesterone
    - 1.) Chasteberry
    - 2.) Wild Yam
  - b. Bioidentical Progesterone
    - 1.) USP Progesterone (United States Pharmacopeia)

- Progesterone) (Progest, Prometrium, Crinone)
  - a.) Micronized = a form that increases the surface area of the hormone & improves its absorption.
- 2.) Progesterone Cream
  - a.) Made from wild Mexican yams
  - b.) 2% cream for application to the body
  - c.) Extremely variable in purity & potency
- c. Synthetic Progesterone
  - 1.) Progesterone Pills
    - a.) Dosages are designed to balance estrogen dosages.
    - b.) More resistant to metabolism in the liver than bioidentical progesterone.
      - (1) Allows lower doses (10times), better absorption, & better prevention of uterine cancer than bioidentical progesterone.
  - 2.) Progesterone Shots
    - a.) Painful, inconvenient
    - b.) Produce very predictable blood levels of progesterone
  - 3.) Progesterone-Only Birth Control Pills
    - a.) Good for controlling erratic periods of early peri-menopause.
    - b.) Decrease risk of uterine cancer
  - 4.) Progesterone – containing IUD
  - 5.) Progesterone Gel

C. Synthetic Estrogen Plus Progesterone (“HRT” = Hormone Replacement Therapy)

- 1. Variables
  - a. Dosages of hormones
    - 1.) Dosages range from as high as those in low dose birth control pills/patches to as low as those in hormone products specifically for menopause.
    - 2.) The younger you are, the higher the hormone dosages you need.
    - 3.) The older you are, the lower the dosages of hormones you need.
  - b. Hormone regimens
    - 1.) Cyclic – mimics a menstrual cycle, with regular periods of bleeding
    - 2.) Continuous – has no cyclic activity, & no bleeding episodes
- 2. Terminology
  - a. Takes into account all the variables

- 1.) Higher dosages = Low Dose Birth Control Pills or Patches
- 2.) Lower dosages = Hormone Replacement Therapy (HRT)
- 3.) Cyclic regimens = Cyclic HRT
- 4.) Continuous regimens = Continuous HRT

### Synthetic Estrogen + Progesterone

	<b>High Dose</b>	<b>Low Dose</b>
<b>Cyclic Regimen</b>	Birth Control Pills Birth Control Patches	Cyclic HRT
<b>Continuous Regimen</b>	Continuous Birth Control Pills Continuous Birth Control Patches	Continuous HRT

3. Low Dose Birth Control Pills
  - a. Mimic a 28 day cycle
    - 1.) Regulate periods
    - 2.) Create a very light flow
  - b. Contain estrogen plus progesterone in higher doses than HRT for menopause.
  - c. Prevent pregnancy
  - d. Ideal for early phases of peri-menopause.
  - e. Can use until age 55 & then switch to HRT.
  - f. Mask all symptoms of menopause
  - g. Prevent osteoporosis.
  - h. Other advantages: They improve or eliminate the following:
    - 1.) Irregular periods
    - 2.) Heavy periods
    - 3.) Anemia due to periods
    - 4.) Growth of fibroids (benign tumors) in the uterus
    - 5.) PMS
    - 6.) Mood swings
    - 7.) Ovarian cysts
    - 8.) Ectopic pregnancy (Eg: tubal pregnancy)
    - 9.) Pelvic inflammatory disease (PID)
    - 10.) Non-cancerous breast diseases
    - 11.) Acne

- i. Long term beneficial effects
  - 1.) Decrease ovarian cancer risk by 50%
  - 2.) Decrease uterine cancer risk by 70% with 12 or more years of use.
  - 3.) Decrease the risk of hip fracture
  - 4.) Increase healthy HDL & decrease lousy LDL
- j. You cannot take low dose birth control pills if you:
  - 1.) Have a personal history of blood clots
  - 2.) Have a personal history of a heart attack
  - 3.) Have a personal history of stroke
  - 4.) Have breast cancer or a history of breast cancer
  - 5.) Have liver disease
  - 6.) Are a smoker over age 35
- 4. Low Dose Birth Control Skin Patches
  - a. Serve the same purposes as pills
  - b. Advantage over pills: They do not increase the risk of blood clots because they bypass the liver.
  - c. Disadvantage: They detach from the skin & fall off sometimes (sweat, lotion, swimming pools, hot tubs).
- 5. Cyclic Estrogen Plus Progesterone (Cyclic HRT)
  - a. You need cyclic HRT if you haven't completed 12 consecutive months without a period.
  - b. Consists of estrogen in the first half of the cycle & estrogen plus progesterone in the second half of the cycle.
    - 1.) Results in a period after multiple days of progesterone.
    - 2.) Prevents the symptoms of menopause
    - 3.) Prevents thickening of the uterine lining
  - c. Cycle packs similar to birth control packs are available.
  - d. Dosages are *inadequate* for pregnancy prevention.
  - e. Multiple dosages available
  - f. Some are made from animal products; others are made from plant products
  - g. You can use these before you become fully postmenopausal.
- 6. Continuous Estrogen Plus Progesterone (Continuous HRT)
  - a. Consists of estrogen plus progesterone every day, with no bleeding episodes.
    - 1.) All bleeding is abnormal & warrants evaluation.
  - b. Available in cycle packs in standard dosages.
  - c. Can take individual estrogen plus progesterone pills (not in a cycle pack) if you need a non-standard dosage of estrogen or progesterone.
  - d. You must wait until you are post-menopausal to use this regimen.
- 7. Skin Patches Containing Estrogen Plus Progesterone
  - a. Similar to estrogen plus progesterone pills
  - b. Advantage over pills: Patches do not increase the risk of blood

clots.

c. Disadvantages

- 1.) May cause skin irritation or rash
- 2.) May adhere poorly to skin

D. Testosterone

1. Symptoms of Abnormal Testosterone

a. Testosterone Deficiency

Lack of energy  
Decreased sex drive  
Difficulty having orgasm  
Thinning of pubic hair  
Decreased muscle mass  
Osteoporosis  
Decreased feelings of well-being

Testosterone Excess

Mood swings  
Acne  
Facial hair  
Deepening of the voice  
Weight gain  
Increased sex drive

2. Categories of Testosterone

a. Botanical & Herbal Testosterone

1. Cayenne
2. Cubeb
3. Damiana

b. Bioidentical Testosterone

1. Dehydroepiandrosterone (DHEA)

- a.) Precursor of testosterone produced by the adrenal glands.
- b.) Pill taken by mouth
- c.) Cream for use on the skin, the clitoris, or in the vagina

2. Testosterone cream

- a.) Obtained from compounding pharmacies

c. Synthetic Testosterone

1. Estratest = estrogen + testosterone in a single pill
2. Estratest HS (half strength) = lower dose of estrogen + testosterone in a single pill

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**VIII. Signs & Symptoms of Menopause with Management Options**

A. Possibilities

1. You may have some of these or all of these
2. They may be temporary or permanent
3. They may be mild, moderate, or severe
4. They may be confused with medical problems

B. Periods with a personality change

1. The ultimate change is that they space out (become farther & farther apart)
  - a. However, they may be quite erratic along the way.
  - b. 90% of women have 4 – 8 years of cycle changes before reaching post-menopause.
  - c. Possible changes that are consistent with peri-menopause include:
    - 1.) Lighter periods
    - 2.) Heavier periods
    - 3.) Longer periods
    - 4.) Shorter periods
    - 5.) Skipped periods
2. Calculate from the *beginning* of one period to the *beginning* of the next.
3. You may just skip a few once in a while.
4. You aren't finished with peri-menopause until you've had **no** periods for **12 consecutive months**. (No cheating!)
5. Some changes are not consistent with peri-menopause, and constitute **abnormal bleeding**
  - a. Heavy bleeding with *clots*
  - b. Bleeding that lasts *longer than 7 days*
  - c. Bleeding that is *more than 2 days longer* than your normal periods
  - d. Periods that are *less than 21 days apart* (from the beginning of one period to the beginning of the next period)
  - e. Spotting or bleeding *between periods*
  - f. Bleeding *after intercourse*
6. You should definitely evaluate all instances of abnormal bleeding.
7. Management Options
  - a. Botanical & Herbal Options (The problem is how much of each?)
    - 1.) Soy
    - 2.) Chasteberry
  - b. Hormonal Medication Options
    - 1.) Low dose birth control pills
    - 2.) Low dose birth control patches

C. Hot Flashes

1. 80% of women have these in *natural* peri- &/or post-menopause.
2. 95 – 100% of women have these with *surgical* menopause.

3. 95 % of women have these for more than 1 year.
4. 65 % of women have these for more than 5 years.
5. Descriptive aspects of a hot flash
  - a. Sudden
  - b. Temporary
  - c. Wavelike, traveling from head to neck to abdomen
  - d. Accompanied by redness & flushing
  - e. Leaves a film of sweat
  - f. You may be cold afterwards.
  - g. You may have palpitations (rapid heart beat) also.
6. Triggers:
  - a. Stress
  - b. Embarrassing moments
  - c. Hot environments
  - d. Hot foods
  - e. Spicy foods
  - f. Heavy clothing
  - g. Smoking
  - h. Caffeine
  - i. Alcohol
7. Variables that affect the likelihood of hot flashes
  - a. Culture
    - 1.) They are a normal & welcome expectation in some cultures.
    - 2.) They are acceptable, rather than embarrassing, in some cultures
  - b. Diet
    - 1.) Hot, spicy foods bring them on.
  - c. Ethnicity
    - 1.) Asians, with very little body hair, have fewer hot flashes.
  - d. Environment
    - 1.) Hot temperatures increase hot flashes
    - 2.) Stressful environments are a set up.
  - e. Socioeconomic status
    - 1.) The ability for women of higher SES to control the ambient temperature lessens their hot flashes.
  - f. Body weight
    - 1.) Hot flashes are more common in obese women.
8. Persistent heat intolerance or feeling hot most of the time *are not* the same as hot flashes.
9. 2 theories for what causes hot flashes
  - a. Resetting of the temperature control in the brain to a lower comfort zone.
  - b. Lower resting temperature with small temperature increases before each hot flash.

10. Hot flashes are due to *changing* estrogen levels rather than to low estrogen levels.

11. Management Options

a. Diet & Lifestyle Options

- 1.) Reduce hot flash triggers (stress, embarrassing situations, heat, hot drinks, spicy foods, smoking, caffeine, alcohol)
- 2.) Keep your body cool (lightweight clothing, reduce room temperature)
- 3.) Regular exercise
- 4.) Stress reduction
- 5.) Paced respiration

b. Botanical & Herbal Options

- 1.) Phytoestrogens
- 2.) Black Cohosh
- 3.) Evening Primrose

c. Hormonal Medication Options

- 1.) Estrogen
- 2.) Progesterone
- 3.) Tibolone
- 4.) Bazedoxifene

d. Non-hormonal Medication Options

- 1.) Antidepressants
- 2.) Neurontin (Gabapentin)
- 3.) Antihypertensives

D. Night Sweats

1. These are essentially hot flashes which occur during sleep.
2. They usually wake you up, resulting in interrupted sleep.
3. Usually leave your skin, clothes, & sheets wet with sweat.
4. You may also have palpitations.

5. Management Options

a. Lifestyle Options

- 1.) Sleep naked
- 2.) Lower the temperature of the bedroom
- 3.) Cool Sets nightwear for menopausal women ([www.coolsets.com](http://www.coolsets.com))
- 4.) Derma Therapy Bedding for menopausal women ([www.menopausebedding.com](http://www.menopausebedding.com))

b. Botanical & Herbal Options

- 1.) Phytoestrogens
- 2.) Black Cohosh
- 3.) Evening Primrose

c. Hormonal Medication Options

- 1.) Estrogen
- 2.) Progesterone
- 3.) Tibolone

- 4.) Bazedoxifene
- d. Non-hormonal Medication Options
  - 1.) Antidepressants
  - 2.) Neurontin (Gabapentin)
  - 3.) Antihypertensives
- e. Note: The botanical, herbal, hormonal, & non-hormonal options are the same for hot flashes & night sweats.

## E. Insomnia

1. Mostly involves difficulty falling asleep.
2. May involve waking up in the middle of the night (although that's more likely to be due to night sweats).
3. Hormonal transitions & sleep are related
  - a. In adolescence & pregnancy: There are increased levels of sex hormones, which act as sleep inducers.
  - b. In menopause. There are decreased levels of sex hormones, which interferes with sleep.
4. Estrogen affects sleep by:
  - a. Decreasing the time it takes to fall asleep
  - b. Decreasing the number of times you awaken.
  - c. Increasing the total amount of time you sleep.
5. Insomnia results in:
  - a. Irritability
  - b. Fatigue
  - c. Inability to concentrate
  - d. Lack of energy
  - e. Mood swings
6. Management Options
  - a. Diet & Lifestyle Options
    - 1.) Avoid caffeine & alcohol
    - 2.) Sleep hygiene
      - a.) Stimulus control (associate the bed only with sleep)
      - b.) Sleep routines
      - c.) Sleep restriction
    - 3.) Regular exercise
    - 4.) Relaxation
  - b. Vitamin & Mineral Options
    - 1.) Melatonin / 5-HTP / L-Tryptophan
  - c. Botanical & Herbal Options
 

1.) Kava Kava	5.) Black Cohosh
2.) Valerian	6.) Chasteberry
3.) Hops	7.) Joyful Change
4.) Passion Flower	8.) Chai Hu Long Gu Muli Wang
  - d. Hormonal Medication Options
    - 1.) Progesterone
      - a.) This makes sense...progesterone is the calming,

sedative, relaxing, anti-anxiety hormone of pregnancy

- e. Non-hormonal Medication Options
  - 1.) Sedative hypnotic meds (Benzodiazepines = ProSom, Dalmane, Doral, Restoril, Halcion, Rozarem)
  - 2.) Imidazopyridines (Sonata, Ambien, Lunesta)
  - 3.) Antidepressants (Tricyclics & SSRIs)
  - 4.) Over the counter meds (Antihistamines)

## F. Fatigue

- 1. Mostly due to insomnia
- 2. Feeling tired &/or lacking energy for normal activities
- 3. Management requires treating insomnia & boosting your energy level
- 4. Management Options
  - a. Diet & Lifestyle Options
    - 1.) Exercise (enough for invigoration without fatigue)
  - b.) Vitamin & Mineral Options
    - 1.) Melatonin / 5-HTP / L-Tryptophan
  - b. Botanical & Herbal Options
    - 1.) Kava Kava
    - 2.) Valerian
    - 3.) Hops
    - 4.) Passion Flower
    - 5.) Dong Quai
    - 6.) Licorice Root
  - c. Hormonal Medication Options
    - 1.) Progesterone
      - a.) This makes sense...progesterone is the calming, sedative, relaxing, anti-anxiety hormone of pregnancy.
  - d. Non-hormonal Medication Options
    - 1.) Sedative hypnotic meds (Benzodiazepines (ProSom, Dalmane, Doral, Restoril, Halcion)
      - a.) These augment fatigue & leave you drowsy
    - 2.) Imidazopyridines (Sonata, Ambien)
    - 3.) Antidepressants (Tricyclics & SSRIs)
      - a.) Cause daytime drowsiness
    - 4.) Over the counter meds (Antihistamines)
      - a.) Terrible for fatigue
  - e. Some of the botanical, herbal, hormonal, & non-hormonal options for insomnia also help prevent fatigue (by providing a good night's sleep). Others are useless or even augment fatigue.

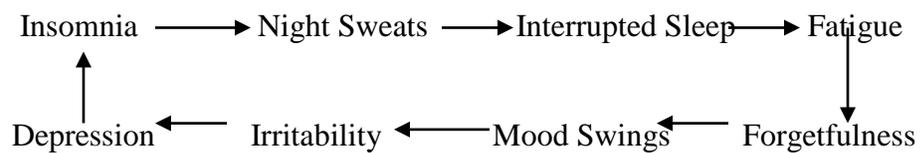
## G. Forgetfulness

- 1. This is a fleeting type of forgetfulness. ("I forgot what I was going to say or do.")
- 2. This is *not* Alzheimer's Disease
- 3. Management Options
  - a. Diet & Lifestyle Options

- 1.) Make a “To Do List” & keep it with you.
- 2.) Diet
  - a.) Eat breakfast
  - b.) Eat frequently
  - c.) Eat a low fat (mostly unsaturated fat), high protein diet with lots of fruit, veggies, whole grains, & soy
  - d.) Restrict your alcohol intake
- 3.) Don’t smoke (it decreases blood flow to your brain).
- b. Vitamin & Mineral Options
  - 1.) Vitamin B1 (Thiamine)
  - 2.) Vitamin C
  - 3.) Vitamin E
  - 4.) Zinc
  - 5.) Selenium
  - 6.) Folate
- c. Botanical & Herbal Options
  - 1.) Ginkgo biloba
  - 2.) Gotu kola
- d. Hormonal Medication Options
  - 1.) Estrogen
  - 2.) Progesterone
  - 3.) DHEA

#### H. Mood Swings / Irritability / Depression

1. These are associated with hormonal *changes*, just like puberty, PMS, & pregnancy
2. Your threshold for upset becomes much lower.
3. Depression may be associated with the stress of life at menopause (adolescent children, elderly parents in poor health, college expenses, retirement planning).
4. 52% of women with menopausal depression haven’t been depressed before.
5. Depression is more common if you also have hot flashes.
6. Two mechanisms for depression:
  - a. Mere transition & aging (culture specific)
  - b. Many of the symptoms of menopause are also symptoms of depression.
7. The chemical change associated with depression is decreased levels of serotonin.
8. It’s a vicious cycle:



9. Management Options
  - a. Diet & Lifestyle Options
    - 1.) Decrease caffeine & sugar
    - 2.) Regular exercise
  - b. Vitamin & Mineral Options
    - 1.) Vitamin B6 (Pyridoxine)
    - 2.) Vitamin B12 (Cobalmin)
    - 3.) Vitamin C
    - 4.) Folate
    - 5.) Biotin
    - 6.) Calcium & Magnesium
    - 7.) Copper
    - 8.) Omega 6 fatty acids
    - 9.) 5-HTP (5-Hydroxytryptophan)
    - 10.) Inositol
    - 11.) SAmE (S-adenosyl-L-methionine)
  - c. Botanical & Herbal Options
    - 1.) St. John's Wort
    - 2.) California Poppy
    - 3.) Valerian Root
  - d. Hormonal Medication Options
    - 1.) Estrogen
    - 2.) Testosterone
  - e. Non-hormonal Medication Options
    - 1.) Antidepressants (Tricyclics & SSRIs)

- I. Cravings for Sweets, Carbohydrates, Alcohol
  1. All hormonal changes are associated with cravings
    - a. Adolescence (carbohydrates)
    - b. PMS (chocolate & carbohydrates)
    - c. Pregnancy (anything goes)
  2. Craving alcohol may be related to its sleep-inducing properties.
    - a. This causes addiction and weight gain
  3. Management Options
    - a. Lifestyle Changes
      - 1.) Self control (limit intake & exercise).

- J. Breast Pain
  1. Resembles PMS & the first trimester of pregnancy
  2. Usually temporary & requires no management

- K. Joint Stiffness & Joint Pain
  1. Only includes osteoarthritis.
  2. May be sudden, due to declining levels of estrogen.
    - a. Estrogen acts like a joint lubricant
  3. Arthritis resembles a rusty door hinge.

#### 4. Management Options

##### a. Diet & Lifestyle Options

###### 1.) Diet

###### a.) Eat plenty of:

- (1) Fish with Omega 3 Fatty acids
- (2) Polyphenols = grapes, olives, green tea
- (3) Veggies containing calcium
- (4) Sweet potatoes
- (5) Spirulina
- (6) Wheat grass
- (7) Kelp

###### b.) Avoid:

- (1) Acidic foods (pickles, vinegar)
- (2) Nightshade veggies (tomatoes, potatoes, eggplant, cherries)
- (3) Coffee
- (4) Alcohol
- (5) Meat
- (6) Sugar
- (7) White flour

###### 2.) Exercise (low impact, yoga, & stretching)

###### 3.) Weight control

###### 4.) Heat

##### b. Vitamin & Mineral Options

###### 1.) Glucosamine (joint cartilage)

###### 2.) Chondroitin sulfate

###### 3.) S- adenosyl – L- Methionine (SAME)

##### c. Botanical & Herbal Options

###### 1.) Feverfew

###### 2.) Aloe vera

##### d. Hormonal Medication Options

###### 1.) Estrogen

##### e. Non-hormonal Medication Options

###### 1.) Acetaminophen

###### 2.) NSAIDS (non-steroidal anti-inflammatory drugs)

###### a.) Non-selective (Ibuprofen, Naproxen = Advil, Aleve, Motrin)

###### b.) Selective (Celebrex, Vioxx, Bextra)

###### 3.) Steroids

#### L. Dry Skin

##### 1. Your skin has 3 layers

###### a. The outer layer sloughs off regularly.

###### b. The middle layer consists of collagen for elasticity.

###### 1.) As collagen loss occurs (with age & menopause), the skin wrinkles

- c. The lower layer is the foundation for the skin with little specific pertinence to menopause.
- 2. Management Options
  - a. Diet & Lifestyle Options
    - 1.) Sun protection – Hats & clothing; not just sunscreen!
    - 2.) Drink water, water, & more water. (65% of the body consists of water.)
    - 3.) Eat fiber
    - 4.) Eat fish with Omega 3 fatty acids
    - 5.) Lather on the lotion.
  - b. Vitamin & Mineral Options
    - 1.) Antioxidant vitamins: C, E, A
    - 2.) CoQ10
    - 3.) Alpha lipoic acid
    - 4.) Proanthocyanidins or flavonoids
      - a.) Grape seeds, pine bark, & green tea
  - c. Botanical & Herbal Options
    - 1.) Green tea
  - d. Hormonal Medication Options
    - 1.) Estrogen
    - 2.) Progesterone

#### M. Hair Loss on the Scalp

- 1. Hair has 3 phases
  - a. Growth (Anagen) (85%) (6 years)
  - b. Resting (Telogen) (15%)
  - c. Falling out (Catagen)
- 2. Hormonal events synchronize the 3 phases so that there are more hairs falling out than there normally are.
- 3. This is usually temporary.
- 4. May be due to increased male hormones (androgen & testosterone)
- 5. Management Options
  - a. Diet & Lifestyle Options
    - 1.) Weight control (fat produces androgen - a male hormone - which causes male pattern baldness.)
    - 2.) Decrease hair manipulation
  - b. Multivitamin & herb combinations specifically for hair growth
    - 1.) Usually contain:
 

a.) Vitamins B1 (Thiamine)	h.) Horsetail silica
b.) Vitamin B2 (Riboflavin)	i.) MSM
c.) Vitamin C	j.) Choline
d.) Niacinamide	k.) PABA
e.) Vitamin B9 (Folate)	l.) L-cysteine
f.) Biotin	m.) Zinc
g.) Vitamin B5 (Pantothenic acid)	

- c. Hormonal Medication Options
  - 1.) Estrogen
  - 2.) Birth Control Pills
- d. Non-hormonal Medication Options
  - 1.) Dexamethasone
  - 2.) Spironolactone
  - 3.) Minoxidil (Rogaine)

#### N. Loss of Eyelashes

- 1. Shorter, finer, thinner, & lighter colored lashes
- 2. Diet & Lifestyle Options
  - a. Balanced diet
    - 1.) Fruit (apples, guava) & vegetables
    - 2.) Eggs
    - 3.) Lean protein
    - 4.) Whole grain
  - b. Brush your lashes
  - c. Trim your lashes (1/4 only)
  - d. Remove makeup at night
  - e. Avoid manipulating your lashes (rubbing, pulling)
  - f. Massage your eyelids to stimulate your lash hair follicles
- 3. Vitamin & Mineral Options
  - a. Vitamin E
- 4. Herbal & Botanical Options
  - a. Olive oil applied to lashes with a brush
  - b. Combination of olive & castor oils applied to lashes with a brush
  - c. Lemon peels soaked in olive oil or castor oil applied to eyelids
  - d. Green tea applied to lashes with a brush
  - e. Aloe vera applied to lashes with a brush
- 5. Non-hormonal Medication Options
  - a. Latisse = Bimatoprost
    - 1.) Medication for glaucoma  
(Lumigan for abnormal eyeball pressure)
    - 2.) Prostaglandin (fatty acid) that has hormone-like effects
    - 3.) Applied along the lash line of the upper eyelid
    - 4.) Results in longer, thicker, darker lashes
    - 5.) Requires 2 months of use for results
    - 6.) Requires continued use;  
lashes return to original state when you stop
    - 7.) Side effects
      - (a) Red, itchy eyes
      - (b) Dry eyes
      - (c) Darkening of eyelid skin
      - (d) Risk of darkening of your eye color
      - (e) Hair growth around your eyes
- 6. Mechanical Options

- a. False eyelashes
- b. Eyelash estensions

O. Hair Growth in Undesirable Locations

- 1. Thick, coarse, dark hair
- 2. Usually on the face (chin & upper lip)
- 3. Due to increased male hormones (androgen & testosterone) & decreased female hormones (estrogen)
  - a. This is the same thing that causes male pattern baldness.
- 4. Management Options
  - a. Mechanical Techniques
    - 1.) Waxing
    - 2.) Electrolysis
    - 3.) Laser
  - b. Hormonal Medication Options
    - 1.) Estrogen
    - 2.) Birth Control Pills
  - c. Non-Hormonal Medication Options
    - 1.) Spironolctone
    - 2.) Dexamethasone
    - 3.) Vaniqa cream

P. Vaginal Dryness

- 1. The vagina is a tube with thick, wrinkled walls (rugae).
- 2. Estrogen keeps the vaginal walls thick & moist.
  - a. Decreased estrogen results in thin, dry, fragile, vaginal walls, called vaginal atrophy.
  - b. The vagina needs more estrogen than other parts of the body.
- 3. Symptoms of vaginal atrophy:
  - a. Itching
  - b. Dryness
  - c. Pressure
  - d. Tenderness
  - e. Burning
  - f. Odor
  - g. Discharge
  - h. Lack of lubrication
  - i. Painful intercourse
- 4. Management Options
  - a. Diet & Lifestyle Options
    - 1.) Have lots of intercourse
    - 2.) Masturbation
    - 3.) Eat plenty of soy
  - b. Mechanical Products
    - 1.) Lubricants (K-Y Jelly)
    - 2.) Moisturizers (Replens)

- c. Vitamin & Mineral Options
  - 1.) Vitamin E
- d. Hormonal Options
  - 1.) Estrogen
  - 2.) Testosterone
  - 3.) Tibolone
  - 4.) Bazedoxifene
  - 5.) Ospemifene

## Q. Urinary Problems

1. Urinary Tract Infections (UTIs)
  - a. Estrogen blocks bacteria
    - 1.) Without estrogen, bacteria enter the urethra & travel to the bladder
  - b. Menopause is associated with UTIs because it increases the pH of the vagina, allowing bacteria to grow. (Pre-menopausal pH = 3.5 – 4.5. Menopausal pH >5).
  - c. Symptoms:
    - 1.) Burning during urination
    - 2.) Blood in your urine
    - 3.) Bladder cramping.
  - d. Management Options
    - 1.) Diet & Lifestyle Changes
      - a.) Drink plenty of water
      - b.) Urinate frequently
      - c.) *Always* urinate after intercourse
      - d.) Good pelvic hygiene (which does **not** include douching)
      - e.) Decrease your caffeine & soft drink intake
2. Urinary Incontinence
  - a. Present in 15 – 35 % of menopausal women
    - 1.) It's common; don't hesitate to mention it to your doctor!
  - b. Caused by decreased muscle tone:
    - 1.) Pregnancy
      - a.) Pressure of the heavy uterus decreases muscle tone.
    - 2.) Menopause
      - a.) Loss of muscle tone due to decreased estrogen at menopause.
    - 3.) Anything that puts pressure on the bladder
      - a.) Smoker's cough
  - c. 2 types of incontinence
    - 1.) Stress Urinary Incontinence (SUI)
      - a.) Leakage of urine with coughing, sneezing, laughing, exercising, lifting.
    - 2.) Urge Incontinence

- a.) Spontaneous involuntary bladder contractions
- b.) Leaks or gushes of urine

d. Management Options

1.) Diet & Lifestyle Options

- a.) Increase dietary protein
  - (1) It increases the speed of bladder muscle contraction.
- b.) Take calcium supplements to improve nerve function & muscle contraction.
- c.) Avoid bladder stimulants:
  - (1) Caffeine
  - (2) Chocolate
  - (3) Spices
  - (4) Alcohol
  - (5) Acidic foods
  - (6) Aspartame (the artificial sweetener)
- d.) Kegel exercises
- e.) Don't smoke...& cough
- f.) Weight reduction
  - (1) Each 5 unit increase in BMI is linked to a 60% to 100% increased risk of incontinence.
- g.) Behavior modifications
  - (1) Prompted voiding = voiding at regular intervals
  - (2) Timed voiding = adhering to a personal fixed voiding schedule
  - (3) Habit retraining = modifying intervals to suit your habits & lifestyle.
  - (4) Bladder drills = voiding just before you actually need to.

2.) Vitamin & Mineral Therapy

- a.) Vitamin C & zinc
  - (1) Improve the quality of connective tissue & the efficiency of muscle contraction
- b.) Vitamin B 12 (Cobalmin)
  - (1) Enhances your awareness of bladder fullness

3.) Hormonal Medication Options

- a.) Estrogen

4.) Non-hormonal Medication Options (for *urge* incontinence only)

- a.) Tolteridine (Detrol)
- b.) Anticholinergics
- c.) Antispasmodics

- d.) Antidepressants
- 5.) Incontinence devices to seal off the urethra temporarily
  - a.) For *stress* urinary incontinence only
- 6.) Injectable substances (collagen or fat) to increase the density of the tissue surrounding & supporting the urethra.
- 7.) Surgical procedures
  - a.) For *stress* urinary incontinence only
- 8.) Electrical stimulation techniques
- 9.) Hypnosis
- 10.) Acupuncture
  - a.) The lower back has specific acupuncture points which regulate & activate the kidneys & bladder.
  - b.) These are the areas with disrupted flow of vital energy (qi).
  - c.) Stimulating these areas with needles may completely or partially resolve incontinence.

## R. Weight Gain

1. Occurs for 3 separate & distinct reasons:
  - a. We have increased fat accumulation with aging.
  - b. The female body has a higher body fat composition.
  - c. Menopause decreases your metabolic rate.
2. All fat is not created equal:
  - a. The *kind* of fat differs at menopause:
    - 1.) Estradiol from the ovaries is replaced by estrone from the fat cells.
  - b. The *location* of fat accumulation differs at menopause:
    - 1.) Estrone gets stored in the abdominal area = truncal obesity
3. Weight gain is *not* due to hormone replacement.
4. Weight gain during menopause is analogous to weight gain during puberty.
5. Body Mass Index (BMI)

- a. Common measure for analyzing the body for obesity
- b. Utilizes both height & weight to determine whether you're underweight, normal, overweight, obese, or morbidly obese
- c. Can use either the metric or the imperial system:
  - 1.) Metric:

$$\text{BMI} = \frac{\text{Weight in kilograms}}{(\text{Height in meters})^2}$$

- 2.) Imperial:

$$\text{BMI} = \frac{\text{Weight in pounds}}{(\text{Height in inches})^2} \times 703$$

6. Interpretation:

<b>BMI</b>	<b>Interpretation</b>
Below 18.5	Underweight
18.5 – 24.9	Normal
25.0 – 29.9	Overweight
30.0 - 39.9	Obese
40.0 & above	Morbidly obese

7. Management Options

a. Diet & Lifestyle Options

- 1.) “*Diet*” not “*dieting*.”
- 2.) Eat frequently to increase your metabolism
- 3.) Exercise (both aerobic and resistance exercises)
  - a.) More than before
  - b.) Weight maintenance requires *daily* aerobic exercise
  - c.) Weight loss requires burning 3500 more calories than you eat for every pound of weight loss.

S. Decreased Sex Drive (Libido)

1. Due to decreased testosterone from the ovaries during menopause
  - a. Your adrenal glands still produce testosterone.
2. Decreased sex drive is usually associated with a decrease in estrogen also.
3. Possible changes in your sexual experience at menopause:
  - a. Decreased frequency of sexual activity
  - b. Vaginal dryness
  - c. Vaginal itching
  - d. Pain or burning with intercourse
  - e. Increased or decreased sensitivity of the clitoris
  - f. Increased or decreased response to sexual stimulation
  - g. Increased or decreased number of orgasms
  - h. Increased or decreased intensity of orgasms
  - i. Increased or decreased sexual desire
4. Decreased OR increased sex drive
  - a. Decreased sex drive results from decreased testosterone.
  - b. Increased sex drive results from testosterone in excess of estrogen.
  - c. What you experience depends on which hormone is dominant (estrogen or testosterone).
4. Categories of decreased sex drive
  - a. Mental
    - 1.) No interest in sex
    - 2.) No thoughts about sex
  - b. Physical / genital

- 1.) No pleasure from stimulation
  - 2.) Inability to orgasm
  - c. You must distinguish between mental and physical causes of decreased sex drive in order to correctly manage it.
    - 1.) Mental requires treating your entire body (testosterone pill, patch, herb, botanical).
    - 2.) Physical/genital only requires treating your clitoris &/or vagina (testosterone cream).
5. Management Options
- a. Diet & Lifestyle Options
    - 1.) Make sex exciting
      - a.) Lingerie
      - b.) Candles
      - c.) Unusual locations & positions
      - d.) Playfulness
      - e.) Toys
      - f.) Videos
  - b. Botanical & Herbal Options
    - 1.) Chasteberry
  - c. Hormonal Medication Options
    - 1.) Estrogen
    - 2.) Testosterone
    - 3.) Estrogen/Testosterone combinations
    - 4.) Progesterone (for maintenance only)
  - d. Non-hormonal Medication Options
    - 1.) Viagra
    - 2.) Cialis
    - 3.) Levitra
    - 4.) Flibanserin
      - a.) First agent developed specifically for women
      - b.) Approved for *pre*-menopausal women!

## T. Acne

- 1. Sequence of events:
  - a. There's an increased level of male hormones (male > female).
  - b. Male hormones cause increased oil on the skin.
  - c. The oil induces faster sloughing of the skin.
  - d. The pores become clogged with dead sloughing skin & oil.
  - e. Bacteria on the skin attack the oils & break them into fatty acids.
  - f. The result is inflammation in the form of a black head or pimple.
- 2. Management Options
  - a. Diet & Lifestyle Options
    - 1.) Diet with loads of water, high fiber, & limited sugar.
    - 2.) Attain & maintain ideal body weight (fat increases the quantity of male hormones you have.)
    - 3.) Hygiene

- b. Vitamin & Mineral Options
  - 1.) Vitamin C
  - 2.) B Vitamins
  - 3.) Zinc
- c. Botanical & Herbal Options
  - 1.) TeaTree oil
- d. Hormonal Medication Options
  - 1.) Birth control pills
- e. Non-hormonal Medication Options
  - 1.) Vitamin A formulations (Retin A, Renova)
  - 2.) Benzoyl Peroxide
  - 3.) Antibiotics

#### U. Headaches

- 1. Hormonal *changes* cause headaches.
- 2. Migraines are due to dilated blood vessels.
  - a. Triggers: stress, sugar, chocolate, MSG
- 3. Effect of menopause on migraine headaches:
  - a. Natural menopause: 66% have improvement in their migraines
  - b. Surgical menopause: 66% have worsening of their migraines
- 3. Management Options
  - a. Diet & Lifestyle Options
    - 1.) Stress reduction
    - 2.) Diet high in soy
  - b. Botanical & Herbal Options
    - 1.) Feverfew
  - c. Hormonal Medication Options
    - 1.) Birth control pills
    - 2.) Cyclic or continuous hormone replacement therapy
    - 3.) Progesterone
  - d. Non-hormonal Medication Options
    - 1.) NSAIDs
    - 2.) Antihypertensives (beta blockers)
    - 3.) Vasoconstrictors

**Menopause: Your Management Your Way ...  
Now and for the Rest of Your Life**

**IX. Health Matters at Menopause: Heart Attack**

A. Statistics

1. Heart attacks are the leading killer of postmenopausal females.
  - a. 1 out of every 2 women dies from a heart attack.  
(1 out of every 29 women dies from breast cancer.)
  - b. Heart attacks kill twice as many females as all cancers combined.
  - c. Within 10 years of becoming postmenopausal, a woman's risk of having a heart attack is equal to that of a man 10 years younger.
  - d. Females are more likely to die or to become disabled from a heart attack than males are.

B. Causes

1. Heart attacks result from fat (lipid) accumulation in blood vessels, which blocks blood flow & oxygen to the heart. (Road blocks)
  - a. Stroke = road block to the brain
  - b. Thrombus = road block composed of a blood clot rather than fats
2. Lipids
  - a. Healthy HDL
    - 1.) Normal range > 46 mg/dl
    - 2.) Menopause *decreases* healthy HDL
  - b. Lousy LDL
    - 1.) Normal range < 130 mg/dl
    - 2.) Menopause *increases* lousy LDL
  - c. Cholesterol
    - 1.) Normal range < 200 mg/dl
  - d. Triglycerides
    - 1.) Normal range < 150 mg/dl
  - e. Ratios are the important thing
    - 1.)  $\frac{\text{Total Cholesterol}}{\text{Healthy HDL}} < \text{or} = 4 = \text{Low Risk}$
    - 2.)  $\frac{\text{Total Cholesterol}}{\text{Healthy HDL}} > 4 = \text{High Risk}$

### C. Symptoms

1. Different for males & females
  - a. Males: Heavy, crushing *chest* pain that radiates to the left arm
  - b. Females:
    - 1.) Pain may be in the *neck, the jaw, or in the back between the shoulder blades*
    - 2.) Chest “pain” may be *tightness, aching, or pressure* rather than pain
    - 3.) May only have *indigestion*
    - 4.) There may be *no pain* at all, or no symptoms at all (“Silent heart attack”)
    - 5.) May only have EKG changes
    - 6.) Palpitations (rapid heart beat) are a normal part of menopause & do not indicate a heart attack.

### D. Risk Factors for Heart Attack

1. ***Previous heart attack yourself***
2. ***Smoking*** (past or present)
3. ***High lousy LDL*** (> 130 mg/dl)
4. ***Low healthy HDL*** (< 46 mg/dl) (Greater impact on females than on males)
5. ***Ratio of Total cholesterol : Healthy HDL > 4***
6. ***High triglycerides*** (> 200 mg/dl) (Greater impact on females than on males)
7. ***Obesity*** (body weight > 25% over ideal or BMI > 25)
8. ***Truncal obesity***
  - a. Apple shape rather than pear shape
  - b. Waist : hip ratio > 0.8
  - c. Waist measurement > 35 inches or 63.5 cm
9. ***High blood pressure*** (> 130/85)
10. ***Diabetes*** (Greater impact on females than on males)
11. ***Sedentary lifestyle***
12. ***Gum disease***
13. ***High level of the amino acid homocysteine*** (from a diet high in animal fat)
14. ***Depression***
15. ***Family history of heart attacks***

### E. Management Options

1. Diet & Lifestyle Options
  - a. Diet
    - 1.) Low fat, low cholesterol diet
      - a.) Limit *saturated* fat intake to < 75 kcal/day
    - 2.) Limit sugar & refined carbohydrates
      - a.) Excesses get stored as fat
    - 3.) Lean meats, low fat dairy products, high fiber grains, fruits, veggies

- 4.) Soy products
  - a.) There's an inverse relationship between the amount of soy you eat and your likelihood of having a heart attack.
- b. Exercise
  - 1.) Increases circulation of lymph, which clears lousy LDL out of the arteries
  - 2.) 20 minutes, 3 times a week, at target heart rate
- c. Weight control
  - 1.) Truncal obesity = accumulation of fat in the abdominal region
  - 2.) Truncal obesity is associated with heart attacks more than weight gain below the hips
  - 3.) Truncal obesity =
    - a.) Waist/Hip > 0.8
    - b.) Waist measurement > 35 in or 63.5 cm
    - c.) An apple-shaped body (vs. a pear-shaped body)
- d. No smoking
  - 1.) Smoking causes > 50% of deaths due to heart attacks in females < 65 years of age.
  - 2.) Smoking decreases the age at which you go through menopause by 2 years.
  - 3.) Discontinuing smoking decreases your risk of heart attack by 50% in 1 year, & by almost 100% in 3 years.

**Note:** Women who eat a heart healthy diet, exercise regularly, Maintain an appropriate body weight, and don't smoke have an 84% lower risk for a heart attack than other women.  
Only 3% of women are in this category.
- e. Alcohol
  - 1.) 1 drink per day is *beneficial* for the *heart* (in females only).
    - a.) 1 drink per day increases healthy HDL.
    - b.) >2 drinks per day is associated with an increased risk of heart attack because it increases your blood pressure.
    - c.) However, 1 drink per day *increases* your risk of *breast cancer*
- f. Dental hygiene
  - 1.) Floss & brush your teeth daily
  - 2.) Maintain dental hygiene appointments twice each year
  - 3.) Periodontal disease doubles your risk of heart attack

- 4.) Theories
  - a.) Bacteria attaches to plaque in arteries
  - b.) Inflammation increases plaque build-up
2. Vitamin & Mineral Options
  - a. Calcium & Magnesium
    - 1.) Function together in regulating the activity of the heart.
    - 2.) Desirable ratio is Calcium : Magnesium= 1:1 or 2:1.
      - a.) Calcium: 1500 mg/day necessary in menopausal females.
        - (1.) Most women only get 400 mg/day in their diets.
      - b.) Magnesium: 400 – 1000 mg/day
        - (1.) Unpolished grains, nuts, green veggies
        - (2.) Milk, meat, & starchy foods have small amounts of magnesium
        - (3.) Processed foods have almost none.
        - (4.) Processed foods cause magnesium deficiency
  - b. More potassium & less sodium
    - 1.) Desired ratio is Potassium:Sodium = 5:1
    - 2.) Average ratio is 1:2, due to fast foods
  - c. Vitamins B6 (40 – 80 mg/day), B12 (20 mcg/day), Folate (400 – 800 mcg/day)
  - d. Vitamin C helps prevent fat from adhering to blood vessels, & increases absorption of calcium & magnesium.
  - e. Vitamin E decreases blood clots (200 – 800 IU/day).
  - f. Vitamin B3 (Niacin) increases healthy HDL, decreases cholesterol, decreases triglycerides, & decreases lousy LDL.
  - g. CoQ10 (30 – 90 mg/day) increases the heart's pumping ability.
  - h. L-carnitine (250 – 500 mg/day) decreases triglycerides, increases healthy HDL, & regulates heart rate.
  - i. Alpha lipoic acid (50 – 200 mg/day)
  - j. Lower your homocysteine levels by decreasing intake of animal protein, & increasing vitamins B6, B12, & folate.
3. Botanical & Herbal Options
  - a. Hawthorne
  - b. Phytoestrogens: 50 gm soy per day + a low fat, low cholesterol diet results in a 12% decrease in cholesterol, & an 11.5% decrease in lousy LDL.
4. Hormonal Medication Options
  - a. Estrogen + Progesterone together do *not* increase the risk of heart attack in women who have been postmenopausal for *less* than 10 years.

- b. Estrogen is more beneficial without progesterone.
- c. Bioidentical progesterone is superior to synthetic progesterone for the heart.
- d. Estrogen
  - 1.) Benefits:
    - a.) Helps blood vessels dilate
    - b.) Decreases lousy LDL
    - c.) Increases healthy HDL
    - d.) Decreases cholesterol
  - 2.) Risks: Increases triglycerides (although the estrogen patch decreases triglycerides)
  - 3.) Works better alone than with progesterone
- e. Progesterone
  - 1.) Synthetic progesterone has a negative effect on the heart.
  - 2.) Bioidentical progesterone does not have a negative effect on the heart

**Note:** Timing is key.

If you begin taking estrogen +/- progesterone *early* in your post-menopausal years, it doesn't increase your risk of heart attack. But if you begin taking hormones *late* in your post-menopausal years, it does.

In fact, estrogen actually appears to protect against a heart attack in pre-, prei-, and early post-menopause.

#### 5. Non-hormonal Medication Options

- 1.) Statins (Pravachol, Mevacor, Lipitor, Zocor)
  - a.) Decrease heart attacks by 24 – 38 %
- 2.) Aspirin (1 baby aspirin /day) decreases blood clots by thinning the blood

**Menopause: Your Management Your Way ...  
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**X. Health Matters at Menopause: Osteoporosis**

A. Osteoporosis = bone loss

B. Rates of loss

1. In the first 5 years of post-menopause, bone mass decreases by 2% each year.
2. After 5 years, postmenopausal women lose 1% of their bone per year for the rest of their lives.
3. Bone loss increases your risk of bone fracture.
4. A 50 year old woman has a 40% lifetime risk of hip, spine, or wrist fracture.

D. Osteoporosis has no early signs or symptoms; just fracture or breakage of bone.

1. It's possible to have decreasing height, back pain, curvature of the spine, or fracture from minimal trauma as late warning signs.
2. The hip & the spine are the 2 most common sites of fracture.
3. The wrist is the third most common site of fracture.

E. Epidemiology & Prognosis

1. 1/4 of postmenopausal women will suffer a hip fracture.
  - a. 20% die from complications
  - b. 50% of the survivors require assisted living or home health care.
2. Spine fracture causes chronic back pain, loss of height, & humpback.

F. Bone architecture

1. Trabecular bone (20% of bone)
  - a. Spine & hip
  - b. Fractures easily
  - c. Porous, loosely packed, weaker, lower levels of calcium, large surface area.
  - d. 50% loss over time
2. Cortical bone (80 % of bone)
  - a. Long bones
  - b. Fractures less easily
  - c. Harder, more dense, stronger, higher levels of calcium, small surface area
  - d. 35% loss over lifetime

- G. Risk Factors for Osteoporosis (If you have 2 or more of these, be sure to manage your menopause to prevent osteoporosis.)
1. **Race**
    - a. Caucasian = highest risk (lifetime risk of hip fracture = 14%)
    - b. Mongoloid / Asian = moderate risk
    - c. Negroid = lowest risk (lifetime risk of hip fracture = 6%)
  2. **Naturally blonde hair**
  3. **Thin body habitus** (small frame, less than 18% body fat)
  4. **Family history of osteoporosis or fractures**
  5. **Premature menopause** (< age 40 without hormone replacement therapy)
  6. **Tendency to fall** (history of falling or fractures, fainting, dizziness, loss of consciousness, poor balance, poor coordination, arthritis, impaired vision, muscle weakness, use of multiple medications)
  7. **Sedentary lifestyle**
  8. **Smoking**
  9. **Excessive caffeine** (> 16 oz / day of coffee, > 60 oz / day of coke)
  10. **Excessive alcohol** (>1 drink per day).
    - a. > 24 oz beer, > 8 oz wine, > 3 oz 80 proof alcohol
  11. **Chronic excessive exercise**
  12. **Anorexia or bulimia**
  13. **Diabetes**
  14. **Thyroid disease**
  15. **Vitamin D deficiency or lack of sun exposure**
  16. **Medications for thyroid disease**
  17. **Use of steroids**
  18. Other medications: **immunosuppressants, blood thinners, anticonvulsants, Valium, Librium, Ativan, Lithium**

H. Calcium

1. Calcium alone cannot prevent osteoporosis
  - a. Osteoporosis is bone *loss*.
  - b. Calcium only makes bone *stronger*; it *can't replace* bone that is lost.
  - c. You can lose strong bone just as you can lose weak bone.
  - d. Estrogen *maintains* bone, while calcium *strengthens* bone
  - e. *Estrogen* prevents bone *loss*, while *calcium* prevents bone *weakening*.
  - f. Estrogen improves *quantity* of bone: calcium improves *quality* of bone.
  - g. **Quantity** of bone refers to the number of “bridges” between different areas of bone.
    - 1.) Calcium can only strengthen the bridges (quality); it can't build new bridges.
    - 2.) Estrogen builds new bridges (quantity).

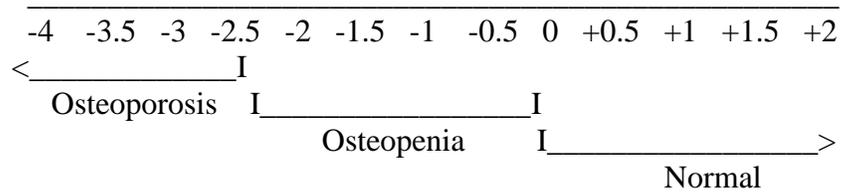
## I. Bone Density

1. Bone density tests measure the *quantity* of mineral in your bone (bone mass).
  - a. They don't measure bone strength.
2. Varieties of bone density tests
  - a. Technique
    - 1.) Ultrasound
    - 2.) Quantitative CT scan
    - 3.) X-ray absorption
      - a.) DEXA = Dual Energy X-ray Absorption  
is the gold standard
  - b. Sites:
    - 1.) Heel
    - 2.) Index finger, hand, or wrist
    - 3.) Entire hip & spine = DEXA
3. Guidelines = criteria for using bone density testing
  - a. Produced at national or international levels by medical associations or governmental bodies.
  - b. Introduced through partnerships that may include
    - 1.) Clinicians
    - 2.) Insurance companies
    - 3.) Purchasers
    - 4.) Patients
    - 5.) The public
  - c. Purpose
    - 1.) Standardize medical care
    - 2.) Achieve the best balance between cost & benefit of testing for the overall population
  - d. Problems
    - 1.) May be inflexible
    - 2.) Guidelines by different organizations may confuse & frustrate doctors & patients
    - 3.) Guidelines change periodically depending on research, risks, insurance, & economic factors
    - 4.) Guidelines are designed for the population at large, not for you individually
    - 5.) Applying guidelines to individual care requires judgment.
    - 6.) Patients may not be the only priority in making recommendations
    - 7.) The only thing *all* guidelines recommend is bone density testing at age 65.
  - e. Your peace of mind is *everything*: Do whatever you need to achieve it ... even if you have to pay for it yourself
    - 1.) Get a baseline bone density test when you first enter peri-menopause.

- 2.) Use any technique you wish.
- 3.) If abnormal, get a DEXA.
- 4.) Frequency of repeat scan depends on many factors.
  - a.) Your risks
  - b.) Your management of your risks
  - c.) Your insurance guidelines
  - d.) Your comfort zone & piece of mind
  - e.) My advice: If your first scan is abnormal, repeat a DEXA every 1 – 2 years to follow your progress

4. T-score

- a. Compares your bone density to that of an average 30 year old woman.
  - 1.) 30 is the age of maximum bone density
  - 2.) Values = or > a 30 year old are normal
  - 3.) Values < a 30 year old are abnormal



<u>T-score</u>	<u>Meaning</u>	<u>Recommendation</u>
> or = 0	Normal	Jump for joy Repeat periodically
-2.4 - - 0.1	Osteopenia	DEXA of hip & spine Begin treatment Repeat DEXA every 1 – 2 yrs
< or = - 2.5	Osteoporosis	Begin treatment Repeat DEXA every 1 – 2 yrs

- 1.) For every whole number difference in bone density:
  - a.) Your risk of fracture doubles
  - b.) You will have a 10 – 15 % decrease in bone mass
  - c.) Your risk of fracture increases by an amount equal to 10 – 13 years of normal aging
- 2.) Individual women with the same T-score will have different risks at various ages.
  - a.) Eg: For a T-score of -3
    - (1) A 70 year old has a 5.5 % risk of hip fracture over the next 5 years.
    - (2) An 80 year old has a 9 % risk of hip fracture over the next 5 years.
  - b.) Risk increases as we age due to:
    - (1) Decreasing bone quality
    - (2) Decreased muscle strength
    - (3) Decreased balance.

#### 5. Z-score

- a. Compares your bone density to a woman of *your own age & ethnicity*.
  - 1.) Tells you if your bone density is appropriate for the normal aging process.
- b. You may have a low T-score & a normal Z-score.
  - 1.) T & Z scores should be the same for a young woman.
- c. Focus on the T-score, not the Z-score.

#### J. Urine Testing

1. Measures bone breakdown products in the urine (really measures collagen fragments).
2. Advantage is that you can monitor this daily rather than monthly or annually.
3. You can get a urine kit without a prescription for this.

## K. Management Options

### 1. Diet & Lifestyle Options

#### a. The key is prevention

- 1.) Slowing or preventing bone loss
- 2.) Maintaining bone strength
- 3.) Minimizing or eliminating falls & injuries

#### a.) Fall-proof your home

- (1) Proof your floors (no waxes or rugs)
- (2) Adequate lighting (automatic or runway lights)
- (3) Pick things up off the floor
- (4) Plenty of walking space (furniture arrangement)
- (5) Non-skid rubber mats in tubs & showers
- (6) Bars in the bathroom
- (7) Repair defects in stairs & floors.
- (8) Adjust height of furniture & other items.
- (9) Avoid long garments & trailing hems

#### b. Exercise

- 1.) Weight-bearing = any activity that places weight on the joints & bones
- 2.) Resistance exercise = use of your muscle strength to overcome resistance (lifting weights 2 – 4 times/wk)

#### c. Balance

- 1.) Stability balls, BOSU, yoga, Pilates

#### d. Smoking cessation

- 1.) Smoking is a risk factor for osteoporosis.

#### e. Sun exposure

- 1.) Provides vitamin D for bones to absorb calcium
- 2.) Hands & arms for 20 minutes, 4 – 5 times weekly, 4 – 5 months of the year is adequate

#### f. Diet

- 1.) Decrease caffeine, which interferes with calcium absorption
- 2.) Limit alcohol
  - a.) Long term alcoholism increases the frequency of bone fracture.
  - b.) 1 drink /day is borderline or excessive for bone health (but beneficial for preventing heart attacks & detrimental for your risk of breast cancer).
- 3.) Soy has phytoestrogens, which protect bone.

- 4.) Flaxseed
  - 5.) Green tea
  - 6.) Protein
  - 7.) No soft drinks. They contain phosphorous, which moves calcium out of bones.
  - 8.) Vitamin D foods (egg yolks, liver, salt water fish, cod liver oil)
  - 9.) Calcium rich foods
2. Vitamin & Mineral Options
- a. Calcium
    - 1.) Makes bone *stronger*; doesn't prevent loss
    - 2.) Absorption requires divided doses taken with food.
  - b. Magnesium (with calcium in a calcium : magnesium 2:1 ratio)
  - c. Vitamin D (400 – 1200 IU/day, need increases with age)
  - d. Trace minerals (manganese, boron, zinc, copper, silicone)
  - e. Folate/folic acid to decrease homocysteine
    - 1.) Folate is the naturally-occurring form found in foods
    - 2.) Folic acid is the synthetic form, not found in nature
    - 3.) You absorb 50% of the folate in unfortified foods.
    - 4.) You absorb 85% of the folate/folic acid in fortified foods.
    - 5.) You absorb 100% of the folic acid in a supplement.
3. Botanical & Herbal Options
- a. Phytoestrogens: 40 gm/day for 6 months increases bone density by 2.2%.
4. Hormonal Medication Options
- a. Estrogen
    - 1.) Your individual minimal necessary dose for prevention of osteoporosis may differ from the dose that alleviates your symptoms of menopause.
    - 2.) Protects bone only *while* you take it.
  - b. Androgen makes bone more dense.
  - c. Progesterone stimulates bone growth.
  - d. Calcitonin (Miacalcin, Fortical) regulates calcium metabolism.
  - e. Teriparatide (Forteo) is parathyroid hormone.
    - 1.) This is the only therapy that prevents bone loss by *building* bone rather than by preventing breakdown.
    - 2.) Last resort for severe osteoporosis (T score < -3)
5. Non-hormonal Medication Options
- a. SERMs (Selective Estrogen Receptor Modulators)
    - 1.) Synthetic products that bind with estrogen receptors
      - a.) “Selective” because they combine with only some estrogen receptors in only some parts of the body & not with others.
      - b.) “Modulators” because they modulate or manipulate the effects of estrogen.

- (1) Some beneficial effects
- (2) Some detrimental effects
- 2.) Tamoxifen (Novaldex)
  - a.) Prevents osteoporosis, breast cancer, & heart attacks
  - b.) The side effect is an increased risk for uterine cancer.
- 3.) Raloxifene (Evista)
  - a.) Prevents osteoporosis & heart attacks
  - a.) Increases blood clots to the same degree that estrogen does.
  - b.) Has no effect on the breast or the uterus.
- 4.) Bisphosphonates (Fosamax, Actonel, Boniva)
  - a.) Prevent osteoporosis only
  - b.) You can take these with estrogen
  - c.) Only beneficial *while* taking them
- 5.) Tibolone
  - a.) Only for *post –menopausal* women
  - b.) Side effects are vaginal bleeding & breast pain
- 6.) Bazedoxifene
  - a.) Prevents osteoporosis
  - b.) Has no effect on the breast or the uterus
  - c.) Decreases hot flashes and vaginal dryness
- 7.) Ospemifene
  - a.) Prevents osteoporosis
  - b.) Decreases the risk of breast cancer
  - c.) Has no effect on the heart or the uterus
  - d.) Decreases vaginal dryness
  - e.) May cause hot flashes or muscle spasms (leg cramps)

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**XI. Health Matters at Menopause: Breast Cancer**

A. Statistics

1. Breast cancer is the most common cancer in women. (Lung cancer is the second.)
2. 1 out of every 29 women dies of breast cancer
3. 1 out of every 7 women will have breast cancer at some time in their life.
  - a. The risk actually increases with age.
  - b. So, the 1 out of 7 statistic pertains to women who live beyond the age of 81.
  - c. So, when you consider all women in all age groups combined, 1 out of 7 will have breast cancer.
  - d. Breakdown of this statistic looks something like this:  
From age \_\_\_\_\_, 1 out of every \_\_\_\_\_ women have breast cancer.

30-40	252
41-50	68
51-60	35
61-70	27
71-80	25
81-90	7

B. Risk Factors

1. **Personal history of breast cancer**
2. **Family history (Maternal first degree relatives only)** –  
mother, sister, daughter  
(May be due to BRCA -1 or BRCA -2 mutations)  
If your \_\_\_ had breast cancer, your risk increases from \_\_\_\_\_ to \_\_\_\_\_.

mother	1 in 7	1 in 4
sister	1 in 7	1 in 6
mother & mother's sister	1 in 7	1 in 4
mother & your sister	1 in 7	1 in 2
grandmother OR aunt (second degree relatives)	No change	
3. **Age**
  - a. Risk increases with age.
4. **Age at first full term pregnancy**
  - a. The older you were, the greater your risk.
5. **Number of pregnancies**
  - b. Fewer pregnancies = greater risk
6. **Age at first period**
  - a. The younger you were (< age 12), the greater your risk.
7. **Age at menopause**
  - a. The later your menopause (> age 55), the greater your risk.

8. Things to notice:

- a. There is a relationship between the number of menstrual cycles you've had & your risk for breast cancer: The more cycles you've had, the greater your risk.

- 1.) That's why late age at first full term pregnancy, fewer pregnancies, early age at first menstrual cycle, & late menopause all increase your risk of breast cancer.
- 2.) Menstrual Life – the term for the number of menstrual cycles you've had during your lifetime
- 3.) How to calculate your "menstrual life:"

$$\frac{(\text{Age at menopause} - \text{Age at first period}) \times 13 - \text{Months of breastfeeding} - \text{Months of pregnancy}}{\text{ANSWER}}$$

- a.) Answer < 350 cycles / lifetime = low risk
- b.) Answer 350 – 450 cycles / lifetime = high risk
- c.) Answer > 450 cycles / lifetime = very high risk

b. Why cycles are to blame:

- 1.) With each cycle, your breast tissue proliferates before your period & resolves afterwards.
- 2.) Proliferating cells are programmed to stop proliferating once your period starts.
- 3.) A cancer cell is a proliferating cell that has lost control & doesn't stop proliferating.
- 4.) Each cycle increases the opportunity for a proliferating cell to lose control & become a cancer cell.

9. **Smoking**

- a. Smoking increases your risk.

10. **Activity level**

- a. The less active you are, the greater your risk.

11. **Body weight**

- a. The heavier you are, the greater your risk.

12. **High fat diet**

- a. The more fat you have in your diet, the greater your risk.

13. **Benign breast diseases**

- a. These just make it more difficult to diagnose breast cancer.

14. **Regular alcohol consumption**

15. **Exposure to intense radiation**

16. **Dense breasts**

C. Management Options (Key: Focus on the things you CAN change.)

1. Diet & Lifestyle Options

a. No smoking

- 1.) At menopause, a heavy smoker has a 4 times greater risk of breast cancer than a nonsmoker.

a.) “Heavy” = 10 or more cigarettes / day

b. Exercise

- 1.) Strenuous exercise *before* menopause has a lasting positive effect on decreasing your risk of breast cancer.
- 2.) Mechanism: Exercise helps to normalize insulin levels

c. Weight control

- 1.) The greater your weight, the greater your risk.
- 2.) Excess weight also decreases the likelihood that you will diagnose breast cancer early.

d. Diet

- 1.) A high fat diet increases your risk for breast cancer.
- 2.) Sugar & refined carbohydrates also increase your risk for breast cancer.

e. Alcohol

- 1.) Breast cancer risk increases with the amount of alcohol you consume.
- 2.) The risk of breast cancer is 60% higher in women who consume 1 or more alcoholic beverages daily than in women who don't.

2. Botanical & Herbal Options

a. Licorice Root

3. Hormonal Medication Options

a. Estrogen

- 1.) *Current* use of hormone replacement therapy (HRT) is associated with and increases your risk of breast cancer.
- 2.) *Past* use of HRT does not increase your risk of breast cancer.

- 3.) The big question: Does estrogen *cause* breast cancer? The answer depends on how well estrogen passes the tests for a cause – effect relationship with breast cancer.

a.) Consistency test:

If estrogen causes breast cancer, there should be *consistency* of the relationship between estrogen & breast cancer from one study to another.

(1) There is no consistency.

(2) For every study concluding that estrogen causes breast cancer, there's another one concluding that it doesn't.

b.) Dose relationship test:

If estrogen causes breast cancer, there should be a *dose-related* effect.

- (1) There is no dose related effect between estrogen & breast cancer.
  - (2) Higher doses of estrogen are not associated with higher rates of breast cancer.
- c.) Estrogen vs estrogen + progesterone test:  
 If estrogen causes breast cancer, there should be a difference in the incidence of breast cancer in women taking *estrogen alone versus those taking estrogen + progesterone*.
- (1) There is no difference in breast cancer rates between women taking estrogen alone & those taking estrogen plus progesterone.
- d.) Persistence test:  
 If estrogen causes breast cancer, the increased risk should *persist after discontinuing* estrogen.
- (1) The risk does not persist after discontinuing estrogen.
  - (2) Only current users have an increased risk.
  - (3) The risk disappears once estrogen is discontinued.
- e.) Type of cancer test:
- (1) If estrogen causes breast cancer, the kind of cancer that develops in the presence of estrogen should be more advanced.
  - (2) When breast cancer is diagnosed in a woman *while* she is taking estrogen therapy, the *kind of breast cancer* is:
    - (a) *less* aggressive
    - (b) *more* responsive to treatment
    - (c) *less* fatal
  - (3) It's possible that women on estrogen may see a physician more regularly, have regular mammograms, & comply with follow up.
- f.) Timing test:
- (1) If estrogen causes breast cancer, the size of the tumor should correlate with the timing of estrogen therapy.
  - (2) Breast cancer *grows very slowly*, from a single cancerous cell into a tumor large enough to diagnose (grape size).
  - (3) This confuses the timing of estrogen's effect or lack of effect on breast cancer.
  - (4) Who knows when breast cancer actually

begins in relation to when a woman was taking estrogen?

4.) Estrogen fails all these tests. So, the answer to the question, “Does estrogen *cause* breast cancer?” is ... ***We don't know!***

5.) In general, most physicians do not give estrogen to women who have had breast cancer.  
a.) As a matter of caution.  
b.) When in doubt, do no harm.

b. Progesterone

- 1.) Synthetic progesterone does *not* protect against breast cancer.
- 2.) Bioidentical progesterone is questionable.
- 3.) All estrogen receptor positive breast cancers are also progesterone receptor positive; therefore, they are slower growing, less aggressive, & more responsive to treatment

4. Non-hormonal Medication Options

a. Tamoxifen (Novaldex)

- 1.) Decreases the risk of breast cancer & prevents recurrence.  
a.) Also prevents bone loss & heart attacks  
b.) Also increases the risk of uterine cancer

b. Aromatase Inhibitors (Armidedx, Femara, Aromasin)

- 1.) Inhibit conversion of androgens into estrogens
- 2.) Only available to *post-menopausal* women
- 3.) More effective than Tamoxifen
- 4.) Do not prevent osteoporosis or heart attacks

D. Early detection of breast cancer

1. There are two tools for detecting breast cancer early:
  - a. Feeling them on breast exam
  - b. Seeing them on mammogram
2. Not all breast cancers behave in the same manner
  - a. You can feel some on breast exam *before* you can see them on mammogram.
  - b. You can see some on mammogram *before* you can feel them on breast exam.
3. Breast cancer is very responsive to treatment **IF** you find it early.

E. Breast Self Examination for Early Detection of Breast Cancer

1. Breast cancer is very responsive to treatment *IF* you find it early.
2. The purpose of examining your own breasts is for you to become so familiar with your own breasts that you know them better than anyone else does.
  - a. Your job is to know what is *normal* for your breasts.
  - b. You want to be the world's greatest expert on your own breasts.
  - c. Consider this:  
If you check *your* breasts monthly,  
& you check *no other* breasts but your own,  
& your *physician* checks *many* breasts every day,  
& he/she only checks *yours once a year*,...  
who is more likely to recognize a subtle change in *your* breasts the earliest?  
**YOU ARE!!!**
3. What you need to know in order to perform your breast exam correctly:  
HOW, WHEN, & WHAT.
  - a. **How** to check your breasts
    - 1.) 2 Positions (neither of which is standing in the shower)
      - a.) Lying down = The *feeling* position
        - Allows your breasts to spread out flat over your chest
      - b.) Sitting or standing in front of a mirror = The *looking* position
        - Allows you to see your breasts clearly
    - 2.) *Lying down*:
      - a.) Put one arm behind your head & check the breast on that same side with the opposite hand.
      - b.) Use your first 2 fingers.
      - c.) Move in circular fashion from the nipple outward, pressing down to your ribs at each location.
      - d.) Then press down on your nipple & up into your armpit.
        - (1) Your breast is ***not round!***
          - (a) It's shaped like a **wing**.

- (b) There is a significant amount of breast tissue in your arm pit.
  - 3.) *Sitting or standing in front of a mirror (NOT in the shower):* Look at your breasts to make sure they are normal in shape, the skin is smooth, & the nipples are not puckered or pulled in.
    - a.) Do this 3 times:
      - (1) 1st with your hands at your sides
      - (2) 2nd with your hands pressing on your hips
      - (3) 3rd with your hands over your head.
  - 4.) Notice: The shower is **NOT** the place for breast checking because:
    - a.) Your breasts do not spread out flat over your chest when you are standing up.
    - b.) You cannot feel all your breast tissue when you are standing up.
    - c.) You cannot press all the way down to your rib when you are standing up.
    - d.) You do not have access to an adequate mirror for looking at your breasts in the shower.
- b. **When** to check your breasts
- 1.) 2 categories of women: The time to check your breasts depends on whether or not you are still having cycles.
    - a.) Cyclers = still having periods
      - (1) Your breasts change throughout your cycle.
      - (2) Check just after your period ends each month.
      - (3) Checking at the same time in each cycle ensures that your breasts will be the same each time you check them.
      - (4) If you check at different times during your cycle, your breasts will always be different, & you'll never know what "normal" is.
      - (5) ***More is NOT better*** because breast cancer grows very slowly. It takes 7 years for a breast cancer to grow from one cell to the size of a small grape.
        - (a) Eg: Growing child
      - (6) Checking too often is actually detrimental
        - (a) It *increases* the chance that you'll miss something.
      - (7) Display a reminder which you will see ***only*** when it's time for your breast check:
        - (a) On your box of light pads
        - (b) On your box of mini-tampons

- (c) On the next package of unopened birth control pills or HRT
- b.) Non-cyclers = no longer having periods
  - (1) Without cycles, your breasts are the same from day to day.
  - (2) Pick a day of the month & check on the same day each month.
  - (3) **More is not better** because breast cancer grows very slowly. It takes \_\_\_\_\_ for a breast cancer to grow from one cell to the size of a small grape.
    - (a) Eg: Growing child
  - (4) Checking too often is detrimental.
    - (a) It *increases* the chance that you'll miss something.
  - (5) Display a reminder which you will see **only** when it's time for your breast check:
    - (a) On the day of the calendar that you've designated for your breast check
- 2.) Notice: The shower is **NOT** the time or place for breast checking because:
  - a.) You shower every day...and that's too frequent for breast checking.
  - b.) Your breast exam should be a separate activity dedicated solely to breast checking.
- c. **What** to feel for when you check your breasts
  - 1.) Don't feel for "lumps" because normal breast tissue is full of lumps.
    - 6.) Lumps = ill defined, soft tissue masses called *fibrocystic tissue*
    - 7.) Since fibrocystic tissue is normal, it is not a disease.
    - 8.) There is no such thing as "fibrocystic disease."
    - 9.) "Fibrocystic tissue" is what makes our breasts nice, & firm, & perky when you're young.
      - (1) It's the reason you win the wet T-shirt contest when you're young.
      - (2) So, it does have some cosmetic advantages
  - 2.) Feel for "*rocks*" or "*pebbles*"
    - a.) Rocks & pebbles are firm, well-defined, distinct masses.
      - (1) Ask yourself: Could I draw this?
        - (a) You cannot draw fibrocystic tissue.
        - (b) You **can** draw rocks or pebbles.

- b.) Rocks or pebbles may exhibit any of the following features:
  - a.) Smooth or rough edges
  - b.) Isolated or multiple in number
  - c.) Mobile or stationary
  - d.) Painful or painless
  - e.) Any location: breast, nipple, or arm pit
- c.) *All* rocks & pebbles warrant an evaluation.
- d.) All rocks & pebbles are not cancer.
- e.) Do not be afraid that you *will* find something; be afraid that you *won't*.
  - (1) Remember: Breast cancer is curable...IF you find it early.

#### 4. Time investment

- a. No matter how large your breasts, the maximum amount of time you'll invest in breast checking is ***30 minutes per month***.
- b. So, for 30 minutes per month, you could save your own life by finding breast cancer when it's early & curable.
- c. This is, without doubt, one of the best investments you could possibly make.

#### F. Mammograms

- 1. Guidelines = a set of criteria for guiding decisions or practices on screening for breast cancer
  - a. Guidelines are produced at national or international levels by medical associations or governmental bodies.
  - b. Guidelines are introduced through partnerships that may include
    - 1.) Clinicians
    - 2.) Insurance companies
    - 3.) Purchasers
    - 4.) Patients
    - 5.) The public
  - c. Purpose
    - 1.) Standardize medical care
    - 2.) Achieve the best balance between screening costs & "benefits"
  - d. Problems
    - 1.) Guidelines from different professional bodies can confuse & frustrate patients & practitioners
    - 2.) Guidelines that are inflexible can leave insufficient room for clinicians to tailor care to your individual needs & personal circumstances
    - 3.) Applying guidelines to individual care requires judgment.
    - 4.) The primary purposes of guidelines vary:
      - a.) Guidelines that have a cost-reducing rationale are not appropriate for making individual clinical decisions. Rather, they are a

- framework for assessing screening costs.
- b.) Patients may not be the only priority in making recommendations
- e. All major organizations agree that the greatest number of lives are saved with annual screening beginning at age 40, yet, the guidelines change periodically
  - 1.) The earlier & more frequently you get a mammogram, the greater the chance you'll be recalled for further evaluation
  - 2.) The later & less frequently you get a mammogram, the greater the chance you'll have breast cancer at a more advanced stage
  - 3.) 2 examples (reflecting newer guidelines)
    - a.) If women wait until age 45 for their first mammogram & then have mammograms every 2 years starting at age 55, 38,000 lives will be lost.
    - b.) If women wait until age 50 for their first mammogram & then have mammograms every 2 years, 100,000 lives will be lost.
- f. Older guidelines are more protective
  - 1.) For women with an average risk for breast cancer (not at high risk):
    - a.) Baseline at age 35
    - b.) Then every 1 – 2 years beginning at age 40
    - c.) Mammogram any time there is breast pain, a breast mass (rock or pebble), bleeding from your breast, or other breast symptoms.
  - 2.) For women with a high risk for breast cancer:
    - a.) Baseline at age 30 – 35
    - b.) Then every year beginning at age 35
    - c.) Mammogram any time there is breast pain, a breast rock or pebble, bleeding from your breast, or other breast symptoms.
- g. Screening only high risk women would miss 75% of early breast cancers
- h. Peace of mind is *everything*. Do whatever you have to do to achieve it ... even if you have to pay for it yourself.
- 2. Ultrasound, MRI, aspiration, or breast biopsy may be helpful in identifying & assessing breast masses.
- 3. **Never** “watch” a breast mass.
- 4. Limitations of mammograms...depend on the age of your breasts
  - a. Young breasts are more dense & lumpy
    - 1.) This is called “fibrocystic tissue.”
    - 2.) It is not a disease; it's normal...so there's no such thing as “fibrocystic disease.”
    - 3.) Fibrocystic tissue looks thick & cloudy on mammograms,

making them difficult to read.

- 4.) That's why younger women often need an ultrasound in addition to a mammogram.
- b. Older breasts are soft, saggy, & less dense.
  - 1.) These changes are due to pregnancy, breastfeeding, & weight gain.
  - 2.) The fibrocystic tissue has been replaced by fat.
  - 3.) This fatty tissue looks clear on mammograms, making them easy to read.
  - 4.) That's why mammograms are more useful in older women than they are in younger women.

**Younger Breasts**

Firm  
Perky  
More dense  
More lumpy  
Fibrocystic tissue  
Cloudy mammogram

**Older Breasts**

Soft  
Saggy  
Less dense  
Less lumpy  
Fatty tissue  
Clear mammogram

5. Women with extremely dense breasts have a 4 – 6 times greater risk of breast cancer than women without dense breasts.

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**XII. Health Matters at Menopause: Uterine Cancer**

A. Incidence

1. Uterine cancer is the most common gynecologic cancer in the U.S.
2. 70% of all cases of uterine cancer occur in women aged 45 – 74.
3. The incidence of uterine cancer is 15 times higher in post-menopause.

B. Endometrium = the lining of your uterus, which is shed during periods

1. Estrogen causes the lining to thicken
2. Progesterone causes the lining to shed

C. At menopause, your ovaries stop producing estrogen to thicken your endometrium.

1. There are other sources of estrogen that will still thicken the lining of your uterus:
  - a. Medications containing estrogen
  - b. Foods containing estrogen
  - c. Botanical & herbal sources of estrogen
  - d. Fat cells in your body.
2. If your uterine lining builds up & *doesn't shed*, it increases your risk for uterine cancer.
3. As long as there is a *balance* between estrogen & progesterone, your uterine lining will not get too thick.
4. *Excess estrogen* is what increases your risk for uterine cancer.
5. A balance between estrogen & progesterone is critical.

D. Here's the rule:

1. If you have a uterus, you **MUST** take **progesterone**!
2. If you don't have a uterus, you don't need progesterone.
3. The only mandatory reason for taking progesterone is to protect your uterus from uterine cancer.

E. Irregular vaginal bleeding is the warning sign for uterine cancer

1. Bleeding that occurs post-menopause
2. Periods that occur *more often* than once per month need evaluation.
3. Evaluation includes:
  - a. Blood test for pregnancy
  - b. Ultrasound
  - c. Biopsy of the uterine lining

F. Risk factors for uterine cancer

1. **Age**
  - a. It's a disease of elderly women (> 45)
2. **Obesity**
  - a. The more fat cells you have, the more excess estrogen you have
3. Any **excess estrogen** source which isn't balanced by progesterone

## G. Management Options

### 1. Diet & Lifestyle Options

#### a. Weight control

- 1.) Fat cells produce excess estrogen, which thickens the uterine lining.

#### b. Diet

- 1.) Foods containing estrogen are healthy
- 2.) Estrogen in foods must be balanced with progesterone.

### 2. Botanical & Herbal Options

#### a. Chasteberry

#### b. Wild yam (cream or gel)

#### c. Licorice Root

### 3. Hormonal Medication Options

#### a. Beware of estrogen alone

- 1.) You must balance estrogen with progesterone
  - a.) Progesterone prevents uterine cancer.
- 2.) The higher the dose of estrogen alone, the greater your risk for uterine cancer.
- 3.) The longer you take estrogen alone, the greater your risk for uterine cancer.
  - a.) The risk for uterine cancer persists for at least 5 years after discontinuing estrogen (unlike it does with breast cancer).
- 4.) Your uterus has a very simplified view of the world:
  - a.) Estrogen *causes* uterine cancer;  
Progesterone *prevents* uterine cancer
  - b.) Estrogen passes all of the tests for causing uterine cancer.
    - (1) Consistency test
      - (a) There is consistency of the relationship between estrogen & uterine cancer from study to study
    - (2) Dose relationship test
      - (a) There is a dose-related effect between estrogen & uterine cancer
    - (3) Estrogen vs Estrogen + Progesterone test
      - (a) There is a difference in the incidence of uterine cancer in women taking estrogen alone versus those taking estrogen + progesterone
    - (4) Persistence test
      - (a) The increased risk for uterine cancer persists after discontinuing

- estrogen
- (5) Type of Cancer test
    - (a) The type of uterine cancer that develops in the presence of estrogen is more advanced
  - (6) Timing test
    - (a) Uterine cancer begins when estrogen thickens the uterine lining & it doesn't shed
- b. Cyclic versus continuous estrogen plus progesterone
- 1.) 2 ways to take cyclic estrogen + progesterone
    - a.) Low dose birth control pills or patches
    - b.) Cyclic hormone replacement therapy (HRT)
  - 2.) Cyclic estrogen plus progesterone for women having cycles
    - a.) Low dose birth control pills or skin patches
      - Decrease your risk of uterine cancer by up to 70% if you use them for at least 12 years
      - Prevent pregnancy & regulate periods
      - Prevent all the symptoms of menopause
      - You can't use these if you smoke, have blood clots, previous heart attack, previous stroke, history of breast cancer, or you're pregnant.
    - b.) Cyclic hormone replacement therapy
      - Lower dose than birth control pills or patches
      - Do not provide birth control
      - Prevent all the symptoms of menopause
      - Contain estrogen alone in the first half of the cycle
      - Contain estrogen + progesterone in the second half of the cycle
      - Available in a variety of dosages of both estrogen & progesterone to allow balancing of the two
    - c.) Differences between low dose birth control pills or patches & cyclic HRT:

### Low Dose BCP or Patches

Higher dosages  
Prevent pregnancy  
Prevent symptoms of menopause  
Fixed dosages

### Cyclic HRT

Lower dosages  
Do not prevent pregnancy  
Prevent symptoms of menopause  
Non-fixed dosages

- 2.) Continuous estrogen & progesterone
  - a.) Involves taking both estrogen + progesterone every day
  - b.) No cycles or periods because there are no days with estrogen alone
  - c.) There is no opportunity to shed the uterine lining
  - d.) Doesn't work if your body is producing estrogen on its own
  - e.) Lower dosages than low dose birth control pills or patches
  - f.) Available in a variety of dosages to balance estrogen & progesterone
  - g.) You can't use this regimen if you are not yet *post-menopausal*

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**XIII. Health Matters at Menopause: Ovarian Cancer**

- A. Rare: 1 in every 70 women
  - 1. Contrast this with breast cancer, which occurs in 1 out of every 7 women.
- B. Risk factors for ovarian cancer
  - 1. **Genetic** (most significant)
    - a. Family history of breast, ovarian, or colon cancer in specific relatives:
      - 1.) First degree = mother, sister, daughter or
      - 2.) Second degree = grandmother, aunt
    - b. A genetic mutation that results in a tendency to develop cancer. (May be BRCA – 1 or BRCA – 2)
      - 1.) Most common in people of Icelandic, Swedish, Dutch, Ashkenazi Jewish ancestry
      - 2.) Only 0.15% of the general population
    - c. Women with no family history have a 1.8% lifetime risk for ovarian cancer.
    - d. Women having 1 first degree relative with ovarian cancer have a 4 – 5% lifetime risk.
  - 2. **Personal history of breast cancer**
  - 3. **Advanced age**
    - a. Most common in postmenopausal women
  - 4. **Obesity**
    - a. Excess weight increases your risk.
  - 5. **Talcum powder used in the genital region**
  - 6. **High fat or low fiber diet**
  - 7. Anything that results in an increased number of menstrual cycles:
    - a. **First period at a young age** (before age 12)
    - b. **No pregnancies**
    - c. **First pregnancy after age 30**
    - d. **Late menopause** (after age 51)
    - e. **Infertility**
    - f. **Infertility drugs**
    - g. **Hormone replacement therapy for menopause** (questionable)
- C. Symptoms
  - 1. There are *no* early warning signs.
  - 2. Ovarian cancer is usually very advanced at the time of diagnosis (70%).
  - 3. Most common first signs (at late stage of the disease):
    - a. Sudden bloating
    - b. Enlargement of the abdomen
    - c. Urge to urinate
  - 4. Deadliest of all female cancers because of the late diagnosis.

5. There is a 90% cure rate *if* it is found early, when confined only to the ovary
  - a. This is most common when the ovaries are removed for other reasons, & the finding of cancer is incidental.

#### D. Diagnosis

1. There is *no screening test* available for ovarian cancer.
  - a. CA 125 is **not** a screening test for ovarian cancer because:
    - 1.) It is nonspecific, which means that it may be abnormal in a variety of conditions, such as:
      - 1.) Infection
      - 2.) Inflammation
      - 3.) Benign tumors of the uterus (fibroids)
      - 4.) Endometriosis
      - 5.) Ovarian cancer
      - 6.) Pancreatitis
      - 7.) Colitis
  - b. Only 50% of women with early ovarian cancer have an elevated CA 125.
  - c. Interpreting a CA 125 can be confusing:
    - 1.) Normal range for post-menopause is < 30 – 35 U/ml depending on the lab.
    - 2.) Normal range for pre-menopause is < 200 U/ml.
2. Ultrasound does **not** serve as a screening test or a means of diagnosing ovarian cancer early.
  - a. It only gives information on the *size* of the ovaries
  - b. The ovaries can be enlarged for a number of reasons, many of which are normal.
  - c. Ovarian cancer doesn't always begin with enlarged ovaries.

## E. Management Options

1. Diet & Lifestyle Options
  - a. Limit your saturated fat.
  - b. Increase the fiber in your diet.
  - c. Control your weight.
  - d. Avoid using talc in your underwear.
    - 1.) It can ascend into your vagina, travel up your fallopian tubes, & into your pelvis, where it acts like asbestos.
2. Botanical & Herbal Options
  - a. Licorice Root
3. Hormonal Medication Options
  - a. Birth control pills
    - 1.) Significantly decrease the risk of ovarian cancer
      - a.) There is a 10% decrease in risk every year for 5 – 7 years of use.
      - b.) Protection lasts for more than 10 years after use.
4. Preventive surgery (oophorectomy)
  - a. Removal of the ovaries decreases the risk of ovarian cancer, but does not prevent it completely.
  - a. If you have a genetic mutation for ovarian cancer, oophorectomy:
    - 1.) Decreases your ovarian cancer risk by at least 90%.
    - 2.) Decreases your breast cancer risk by at least 50%.

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**XIV. Health Matters at Menopause: Alzheimer's Disease**

- A. Alzheimer's Disease = a brain disorder in which memory, reasoning, & independent thinking become impaired.
- B. There is a link between Alzheimer's disease & estrogen
  - 1. Estrogen increases blood flow to the brain.
  - 2. Natural estrogen decreases the risk & delays onset of Alzheimer's Disease.
  - 3. Higher levels of estrogen are associated with the lowest risk of Alzheimer's Disease.
  - 4. Early menopause is associated with higher rates of Alzheimer's Disease
- C. Risk factors for Alzheimer's disease
  - 1. **Age**
    - a. Your risk increases with age.
    - b. This is the most important & the most consistent risk factor.
    - c. The number of people with Alzheimer's doubles every 5 – 10 years beyond the age of 65.
  - 2. **Gender**
    - a. Being female is a risk factor in & of itself
    - b. This may be partially due to the fact that females have longer life spans than males.
    - c. The female : male ratio for Alzheimer's disease is 2 : 1
  - 3. **Genetics**
    - a. Family history is a very consistent risk factor
    - b. A positive family history makes your risk 4 times higher at any age.
    - c. A positive family history is associated with a younger age of onset of Alzheimer's
      - (1) Most often between ages 50 & 60
  - 4. **Previous traumatic head injury**
  - 5. **Lower educational level**
  - 6. Possible, but not definite, risk factors include:
    - a. Risk factors for heart disease & stroke, such as:
      - (1) **High blood pressure**
      - (2) **High cholesterol**
      - (3) **Low levels of folate** (Vitamin B9)

## C. Management Options

1. Diet & Lifestyle Options
  - a. Avoid processed & refined foods
  - b. Challenge yourself mentally
    - 1.) Games
    - 2.) Puzzles
    - 3.) School
  - c. Exercise (increases blood flow to the brain)
    - 1.) Try new physical activities
2. Vitamin & Mineral Options
  - a. Vitamin B1 (Thiamine)
  - b. Vitamin B3 (Niacin) prevents senility
  - c. Vitamin C
  - d. Vitamin B6, magnesium, & zinc maintain mental stability
  - e. Vitamin E clears the arteries of fatty deposits
  - f. Lecithin clears plaque & increases blood flow to the brain
3. Botanical & Herbal Options
  - a. Ginkgo biloba has beneficial effects on memory & brain function in both the short & the long term.
4. Hormonal Medication Options
  - a. Estrogen
    - 1.) Use of estrogen *early* in menopause & before Alzheimer's begins decreases the risk by 2.5 times in 10 years.
    - 2.) If you begin estrogen therapy *after* Alzheimer's disease has begun, there's no benefit.
      - a.) By the time there are symptoms of Alzheimer's, 40% of the brain cells are dead.
    - 3.) Long term use is more protective than short term use.
  - b. DHEA (Dihydroepiandrosterone) is an option if you can't take estrogen.

**Menopause: Your Management Your Way ...  
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**XV. Research Studies**

- A. Types of Research Studies
  - 1. Cohort versus random
  - 2. Matching of subjects & controls versus no matching
  - 3. Double blind versus single blind versus no blinding
  - 4. Prospective versus retrospective
  - 5. Large versus small
  - 6. Reviews versus documentaries or editorials
- B. Objectives
  - 1. The actual study findings may or may not pertain to the objective.
- C. Significance
  - 1. Findings pertain to the population as a whole rather than to you individually.
- D. There are hundreds of studies on the same topic.
  - 1. It is possible to design a study to support almost any hypothesis.
  - 2. Study results may vary from one study to another for a variety of reasons.
    - a. Design differences
    - b. Population differences
    - c. Variable drug effects
  - 3. The media only presents some studies...& they pick the most dramatic, attention-getting, or startling ones.
    - a. They're in the business of journalism & entertainment.
  - 4. Drug companies sometimes fund or sponsor the research
- E. Lessons:
  - a. Don't use the media as your only, or your primary, source of medical information.
  - b. Don't let a media report induce you to change or discontinue your medications.
    - 1.) No study has studied you as an individual.
    - 2.) Get help in applying the information from the study to your personal situation.
- F. The medical community supports & practices what the *majority* of studies recommend.

G. Factors which affect a study (The things you need to pay attention to as you assess the merit a study has on you as an individual.)

1. Study design
2. Size of study population
3. Characteristics of the study population
4. How much you resemble the study population
5. Criteria for excluding subjects
6. Duration of the study
7. Study objectives
8. How well the conclusions pertain to the objective
9. Actual conclusions
10. Sponsorship for the study
11. Market forces
12. Economics
13. Competition
14. Media reporting, drama, sensationalism

**Remember:** It's all about you. When you assess a study, keep thinking, *me, me, me!*

H. Postmenopausal Hormone History

1. 1928: The first estrogen (called Estrone) was synthesized.
2. 1942: Premarin received FDA approval for menopausal hormone replacement, & its use became commonplace.  
(# 11, 12, 13 above)
3. 1952: A study showed that estrogen enhanced verbal memory in elderly women.  
(# 2, 3, 4, 5, 6, 7, 8, 9, 10 above)
4. 1959: A paper described “menopausal syndrome,” & estrogen was promoted as the cure for it.  
(# 3, 6, 7, 8, 9, 10, 11, 12, 13, 14 above)
5. 1962: An article in *JAMA* revealed that estrogen & progesterone did not *cause* cancer. So, the erroneous conclusion was made that estrogen & progesterone *prevented* breast & gynecologic cancers.  
(# 1, 3, 5, 6, 7, 8, 9 above)
6. 1966: The book *Feminine Forever* promoted hormone therapy as the “cure” for menopause.  
(# 10, 11, 13, 14 above)
7. 1969: The book *Everything You Always Wanted to Know About Sex* said that menopause brought a woman as close as possible to becoming a man...& estrogen was the cure.  
(# 10, 11, 13, 14 above)
8. 1973: Sales of estrogen quadrupled. *Harper's Bazaar* asserted that estrogen kept women “flirtatiously feminine... a real package deal that spruces up your vagina.”  
(# 10, 11, 12, 13, 14 above)

At the same time, a study gave Premarin to *men* to *prevent* heart attacks & strokes, but actually *resulted in more* heart attacks & blood clots. It was discontinued.

(# 1, 2, 3, **4**, 5, 6, 7, 8, 9, 10, 11 above)

9. 1975: The *NEJM* published 2 studies showing that estrogen caused a 4 fold increase in the risk of developing uterine cancer.

(# 1, 2, 3, **4**, 5, 6, 7, 8, 9, 10 above)

10. 1976: A study showed a link between estrogen for menopause & breast cancer. Estrogen sales plummeted.

(# 1, 2, 3, 4, 5, 6, 7, **8**, 9, **10**, **11**, **13** above)

11. 1980: An article reported that adding progesterone to estrogen decreased uterine cancer, decreased osteoporosis, & decreased heart attacks.

(# 1, 2, 3, 4, 5, 6, 7, **8**, 9, 10, 14 above)

12. 1985: Conflicting studies emerged as to whether or not estrogen was associated with heart attacks. Estrogen was not given to women with heart problems, which confounded the data.

(# 1, 2, 3, 4, **5**, 6, 7, 8, 9, 10, 11, 14 above)

13. 1987: A study showed both positive & negative effects of estrogen & progesterone on the heart.

(# 1, 2, 3, 4, 5, 6, 7, **8**, 9, 10, 13 above)

14. 1989: A study revealed that progesterone for protection of the uterus might increase the risk of breast cancer.

(1, 2, 3, 4, 5, 6, **7**, **8**, 9, 13 above)

15. 1990: The WHI study assessed whether estrogen or estrogen plus progesterone *prevented* various diseases.

(# 1, 2, 3, 4, 5, 6, **7**, 8, 9, 10 above)

At the same time, Premarin began to list protection from heart attacks on its label.

(# **11**, 12, **13** above)

16. 1990-1995: Premarin was the most frequently prescribed drug in America.

(# 11, 12, **13**, **14** above)

Also, a combined estrogen plus progesterone pill (Prempro) became available.

(# 11, 12, **13** above)

17. 1996: A study showed that HRT did not help women who had already had a heart attack. (The medical community believed & preached the opposite.)

(# 1, 2, **3**, 4, **5**, 6, 7, 8, 9, 10, 11 above)

18. 2002: WHI discontinued the estrogen plus progesterone arm because risks outweighed benefits of hormones used for *prevention* of cancers (breast, colon), heart attacks, & osteoporosis.

(# 1, 2, 3, 4, 5, 6, 7, **8**, **9**, 14 above)

19. 2004: WHI discontinued the estrogen only arm because risks did not exceed benefits of estrogen.  
(# 1, 2, 3, 4, 5, 6, 7, **8**, 9, 14 above)

I. WHI (Women's Health Initiative) Study

1. Purpose (objective) of the study was to answer the question: How well does hormone therapy for menopause *prevent*:
  - a. Heart attacks,
  - b. Breast cancer,
  - c. Osteoporosis,
  - d. Colon cancer?
2. WHI was a *preventive* trial.
  - a. It sought to assess whether or not hormones *prevented* diseases; it was not designed to assess whether or not hormones *caused* diseases.
  - b. This means that very low thresholds were set for any negative outcomes.
3. Did *not* assess the use of hormones to manage menopause at all.
  - a. It was *not* a study on menopause.
  - b. It was a study on diseases of elderly women.
  - c. The average age of women in the study was 63.
  - d. The planned duration of the study was 8.5 years.
4. 2 arms:
  - a. Estrogen Plus Progesterone Group
    - 1.) Consisted of 50 – 70 year old women with uteri, who received either estrogen plus progesterone or placebo.
  - b. Estrogen Only Group
    - 1.) Consisted of 50 – 70 year old women without uteri who received either estrogen alone or placebo.
5. Outcomes:
  - a. The **estrogen + progesterone arm** was discontinued after 5.2 years because estrogen + progesterone did not *prevent* heart attacks.
    - 1.) The media report to the public was that the risks of estrogen + progesterone outweighed the benefits of estrogen + progesterone.
      - a.) They neglected to mention that the study was designed to see if estrogen + progesterone prevented heart attacks specifically.
      - b.) They generalized the results to apply to all uses of estrogen + progesterone.
  - b. The **estrogen alone arm** was discontinued after 6.8 years even though there was *no* demonstration that the risks of estrogen alone outweighed its benefits.
    - 1.) The purported reason for discontinuing this arm was that continuation would not have changed the results, but it was really due to funding issues.

6. Media reports resulted in 40% of all postmenopausal women discontinuing all hormones.
7. Estrogen Plus Progesterone Arm: The Truth
  - a. The primary goal was to answer the question:  
Does postmenopausal hormone therapy (estrogen plus progesterone) *prevent* heart disease,  
& if it does, what are the risks of using it for that purpose?
  - b. The answer was:  
Estrogen plus progesterone is unlikely to prevent heart attacks.
  - c. The media report to the general public was that estrogen plus progesterone:
    - 1.) Increased blood clots 100%  
= 8 more /10,000 women / year
    - 2.) Increased strokes 41%  
= 8 more /10,000 women / year
    - 3.) Increased heart attacks 26%  
= 7 more /10,000 women / year
    - 4.) Increased breast cancer 26%  
= 8 more /10,000 women / year
  - d. The media failed to report the following benefits of estrogen plus progesterone:
    - 1.) Decreased colon cancer 37%  
= 6 fewer /10,000 women / year
    - 2.) Decreased hip fractures 33%  
= 5 fewer /10,000 women / year
    - 3.) Decreased all fractures 24 %  
= 4 fewer / 10,000 women / year
    - 4.) Had no effect on death from all causes
  - e. In reality:
    - 1.) Earlier initiation of HRT is associated with lower rates of heart attacks.
    - 2.) As you increase the duration of HRT, the rate of heart attacks decreases.
    - 3.) Once road blocks occur in the arteries, HRT cannot reverse them.
  - f. *This arm did not address the short term benefits of HRT for treating menopausal symptoms.*
    - 1.) *However, 9 out of every 10 women who take HRT do so for the symptoms of menopause.*
9. Estrogen Alone Arm: The Truth
  - a. The primary goal of this arm was to answer the question:  
Does postmenopausal estrogen alone *prevent* heart disease;  
& if it does, what are the risks of using it for that purpose?
  - b. The answer was:  
Estrogen alone may or may not prevent heart attacks.  
We can't say because we discontinued the study before its

completion.

- c. The findings of this arm were as follows:
  - 1.) The risk of heart attack in women between the ages of 50 – 59 (the most common age for estrogen use) was decreased by almost half.
  - 2.) The risk of stroke in women between the ages of 50 – 59 was only slightly increased.
  - 3.) The risk of blood clots was increased with estrogen & with age.
  - 4.) The risk of breast cancer was decreased at all ages.
  - 5.) The risk of colon cancer was decreased in women younger than age 70.
  - 6.) There was an overall decrease in the risk of fracture.
10. Limitations of the WHI Study
  - a. “Limitations” are neither positive nor negative in terms of personal use (as you apply this data to yourself).
    - 1.) They may make the results more specific to you personally.
    - 2.) They may make the results invalid or inapplicable to you personally.
  - b. Limitations:
    - 1.) The average age of women in the study was 63
      - a.) This is much older than the typical woman going through peri-menopause and early post-menopause.
    - 2.) Only tested one dose of hormones.
      - a.) Other dosages may have given different results.
    - 3.) Only tested one form (oral) of hormones.
      - a.) Non-oral forms may have shown lower risks.
    - 4.) Only evaluated continuous estrogen plus progesterone (& not cyclic estrogen plus progesterone).
      - a.) Cyclic estrogen plus progesterone may have produced different results.
    - 5.) Although the study was designed as a trial of “healthy” women ...
      - a.) 50% were smokers
      - b.) 33% were overweight
      - c.) 4% had diabetes
      - d.) 33% had high blood pressure
      - e.) 15% had a family history of breast cancer

This may actually represent the “average” older American woman at 63 years of age.
    - 6.) *WHI eliminated women with severe menopausal symptoms, but that’s the group who is most likely to opt for hormone use.*

11. WHI Summary
  - a. Designed to test how well HRT prevents diseases
  - b. Did not test short term benefits of HRT for symptoms of menopause
  - c. Most women who take HRT do so for the symptoms of menopause.
  - d. Media reports resulted in 40% of postmenopausal women discontinuing all hormones.
  - e. For women who begin hormone therapy (HRT or ERT) for menopause in peri- or early post-menopause, the benefits outweigh the risks early on for the vast majority.  
With time, the risks may outweigh the benefits for some women, mostly due to the aging process.
12. Lesson:
  - a. Never react to study results impulsively.
  - b. Remember that research studies study the population as a whole, not you as an individual.
  - c. Discuss your personal situation with your healthcare provider & apply the results to your personal situation.
13. New recommendations
  - a. Do not use estrogen plus progesterone specifically for the purpose of preventing heart attacks.
  - b. Weigh the benefits against the risks of using estrogen plus progesterone to prevent osteoporosis.
  - c. For now, assume that estrogen use for more than 5 years may increase the risk of breast cancer.
  - d. The primary reason to use hormones is for treatment of moderate to severe symptoms of menopause.
  - e. Local estrogen (cream or ring) suffices for vaginal dryness or urinary symptoms.
  - f. Hormone replacement is important for premature menopause.
  - g. It is reasonable to generalize information from one brand of hormone to another.
  - h. The purpose of progesterone is to prevent uterine cancer.
  - i. Do not begin estrogen plus progesterone after age 65 for the primary purpose of preventing dementia or treating Alzheimer's Disease.

**Menopause: Your Management Your Way ...  
Now and for the Rest of Your Life**

**XVI. For the Guys**

**A. Menopause in a Flash**

1. The ovaries are the organ of interest at menopause.
2. Estrogen is the hormone that diminishes at menopause.
  - a. It declines slowly over time, like puberty in reverse.
3. 3 Phases of menopause:
  - a. Pre-menopause = before
  - b. Peri-menopause = around or near the transition into menopause (resembles adolescence)
  - c. Post-menopause = after the transition is complete
4. Mother Nature isn't always flawless her techniques
5. Signs & Symptoms of Menopause (Peri & Post)
  - a. Some resemble adolescence:
    - 1.) Mood swings
    - 2.) Irritability
    - 3.) Depression
    - 4.) Cravings for sweets & carbohydrates
    - 5.) Weight gain
    - 6.) Acne
    - 7.) Increased sex drive
    - 8.) Headaches
  - b. Some resemble pregnancy
    - 1.) Hot flashes
    - 2.) Night sweats
    - 3.) Insomnia
    - 4.) Fatigue
    - 5.) Mood swings
    - 6.) Irritability
    - 7.) Cravings for various foods
    - 8.) Breast pain
    - 9.) Urinary problems (leaking & infections)
    - 10.) Weight gain
  - c. Some resemble aging
    - 1.) Less frequent periods
    - 2.) Insomnia
    - 3.) Fatigue
    - 4.) Forgetfulness
    - 5.) Joint stiffness & joint pain
    - 6.) Dry skin
    - 7.) Hair loss
    - 8.) Hair growth in undesirable locations
    - 9.) Dryness of the vagina
    - 10.) Urinary problems (leaking)

- 11.) Weight gain
- 12.) Decreased sex drive

#### B. Male Menopause

1. Males don't end their reproductive potential like females do.
  - a. Nevertheless, males still age.
  - b. Males do not have a specific time in their lives when many changes occur at the same time.
2. Males age more gradually:
  - a. Increasing forgetfulness
  - b. Stiffness & joint pain
  - c. Dry & wrinkled skin
  - d. Thinning of body hair
  - e. Male pattern baldness
  - f. Hair growth in undesirable locations (nose, ears)
  - g. Urinary problems (dribbling, frequent urination, prostate enlargement)
  - h. Weight gain
  - i. Decreased sex drive & stamina
3. Testosterone levels gradually decrease with age.
  - a. Fewer thoughts about sex
  - b. Thoughts about sex are less vivid & easier to control
  - c. Softer, smaller, less instantaneous erections
  - d. Less forceful ejaculation
4. Some men experience an emotional or psychological form of menopause
  - a. Eg: The 40 – 50 year old guy who divorces his wife, marries a woman half his age, buys a sports car, & has a second family.
  - b. Maintenance of virility is a huge priority for many men
    - 1.) That's why drugs for erectile dysfunction are so popular (Viagra, Cialis, Levitra)
5. Some men experience a midlife crisis
  - a. They realize that they're entering the second half of their lives & that many of their hopes & dreams are unreachable.
  - b. They harbor feelings of failure
    - 1.) So called solutions:
      - a.) Change jobs
      - b.) Buy a new car
      - c.) Take a sabbatical
      - d.) Pursue a new hobby

#### C. Men in Support of Menopause

1. Some men have already played a supportive role in the hormonal ups & downs of womanhood.
  - a. PMS
  - b. Adolescence
  - c. Pregnancy
2. Menopause is just another bump in the hormonal life cycle.

3. For some men, enduring his partner's menopause is worse for him than it is for her.
4. The greatest fear is the unknown; preparation is key.
5. Romance comes in many forms.
  - a. Being supportive & understanding
  - b. Showing her that you think she's sexy
  - c. Communicating openly & frequently
  - d. Helping out more than usual
6. Being informed helps men to understand what a menopausal woman is going through.
7. No two women experience menopause in exactly the same way, so *don't* compare one woman's to another's.
8. There are many management choices to consider.
  - a. Supporting whatever the menopausal woman chooses to do is the best course of action.
  - b. Her opinion is the only one that matters.
  - c. She knows herself better than anyone else does.
  - d. She may use trial & error.
  - e. She may change her mind.
  - f. She may adjust her management many times as she ages.
  - g. It's not the man's job to fix it.