Women, Weight and Hormones

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Weight
Obesity is Epidemic in the US

- 2/3rds of U.S. adults are overweight or obese

<table>
<thead>
<tr>
<th>Height</th>
<th>Weight Range</th>
<th>BMI</th>
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<tr>
<td>5'9&quot;</td>
<td>124 lbs or less</td>
<td>Below 18.5</td>
<td>Underweight</td>
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<tr>
<td></td>
<td>125 lbs to 168 lbs</td>
<td>18.5 to 24.9</td>
<td>Healthy weight</td>
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<tr>
<td></td>
<td>169 lbs to 202 lbs</td>
<td>25.0 to 29.9</td>
<td>Overweight</td>
</tr>
<tr>
<td></td>
<td>203 lbs or more</td>
<td>30 or higher</td>
<td>Obese</td>
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Alarmingly, the obesity trend is worsening.
The Bad News - Obesity Increases Your Likelihood of Disease

- People who are overweight or obese have a greater chance of developing:
  - High blood pressure
  - High cholesterol or other lipid disorders
  - Type 2 diabetes
  - Heart disease
  - Stroke
  - Certain cancers
Hormones

Estrogen, Progesterone, Testosterone
What are hormones?

• **Chemical Messengers** - Chemical substance secreted by one tissue to affect another tissue in your body

• **Dynamic** - The amount and levels of hormones change daily – some vary from hour to hour and even minute to minute

• **Cyclical** - Hormone release varies between night and day and from one stage of the menstrual cycle to another
Hormone Cycle

(a) Control by hypothalamus
- Hypothalamus
  - Secretes GnRH (Gonadotropin-Releasing Hormone)
- Anterior pituitary
  - Stimulation by GnRH

(b) Pituitary gonadotropins in blood
- LH (Luteinizing Hormone)
- FSH (Follicle-stimulating Hormone)
- LH surge triggers ovulation

(c) Ovarian cycle
- Growing follicle
- Maturing follicle
- Corpus luteum
- Degenerating corpus luteum

(d) Ovarian hormones in blood
- Estradiol
- Progesterone
- LH surge peak causes ovulation

(e) Uterine (menstrual) cycle
- Menstrual flow phase
- Proliferative phase
- Secretory phase

Brain → Ovary → Uterus
**Estrogen**

**Location**
- Produced in the ovaries, adrenal glands and fat tissues and placenta.
- Effects Tissue - breasts and uterus, brain, bone, liver, heart and GI track.

**Function**
- Promote formation of female secondary sex characteristics
- Accelerate metabolism
- Reduce muscle mass
- Increase fat stores
- Stimulate uterine growth
- Increase vaginal lubrication
- Thicken the vaginal wall
- Maintenance of vessel and skin
- Reduce bone breakdown, increase bone formation
- Protein synthesis
- Coagulation
- Lipid changes – Increase HDL and Triglyceride – decrease LDL and fat deposition
- Regulate water and salt retention
- Reduce bowel motility
- Melanin – skin changes
- Converted to testosterone for sexual desire
# Progesterone

## Location
- Produced by the ovaries, the placenta and the adrenal glands.
- Effects tissue in – Uterus, brain, breasts

## Function
- Prepare the uterine lining to receive and nourish a fertilized egg
- Peak levels in cycle cause the LH surge
- Helps to maintain pregnancy
- Encourages growth of milk glands in the breast

## Symptoms
- Breast tenderness
- Bloating
- Mood swings – emotional
- Hair Loss
- Irregular cycles
- Headaches
Testosterone

- Main purpose is to be converted into estrogen
- Produced in the ovaries, adrenal glands and fat cells.
- Play a key role in the hormonal cascade that kick-starts puberty, stimulating hair growth
- Regulate the function of many organs, including the reproductive tract, bone, kidneys, liver and muscle.
- Play a key role in the prevention of bone loss, as well as sexual desire and satisfaction
- Helps your body to create lean muscle mass - muscle cells burn more calories than fat cells do, increasing metabolism
- Excess amounts can result in virilizing effects as acne, excess hair growth in inappropriate places and thinning hair
- Low levels may affect women at any age, but most commonly occur during the transition to menopause
- Levels begin dropping in a woman's twenties, by menopause, they have declined 50 percent or more from their peak
Hormone Cycles

Puberty, Perimenopause, Menopause
Puberty

- Initiated by hormone signals from the brain to the ovaries
- Usually begins at age 9 - Puberty happens over a period of 2 to 4 years
- Increase in Height and Weight
  - **Height** - Starting at around age 9, girls begin to gain about 17% to 18% of their adult height. Limbs grow first, then trunk. Most girls reach their peak height growth about six months before they start their first period
  - **Weight** – gains of 15 pounds or more are normal in puberty – more fat is made that accumulates along upper arms, thighs, upper back, breasts and hips
- **Puberty Breast Development** - can happen before age 9 in some girls, but later in others
- **Increase in Hair** - increase in hair on arms and legs, armpits, and around pubic area
- **First Menstrual Period** – occurs soon after breast development - usually happens between ages 12 and 13
- **Mood Swings** - due to hormonal surges in puberty – worse right before periods
Effects of Puberty on Weight

- Pubertal weight gain accounts for about 50% of an individual's ideal adult body weight
- Weight gain in puberty can affect girls' weight for the rest of their lives - diet and exercise become very important
  - Many girls gain weight during puberty they can't get rid of for the rest of their lives
- Heavier girls hit puberty earlier than their slimmer peers
  - Of the heaviest 15% of girls, 50% had started developing breasts by age 9
- Girls' weight at age 3
  - Could predict a younger entrance into puberty
  - Rapid weight gain 3 – 6 years old increase risk or early breasts development by fourth grade
- Studies show that girls whose bodies mature younger tend to misbehave in school and suffer from anxiety or depression
  - In addition, longer exposures to sex hormones put women at greater risk for breast cancer
- Athletic and anorexic girls experience the opposite of overweight girls -- their periods are delayed or stop if they lose too much weight
Perimenopause

**Defined** – The physical and emotional changes associated with fluctuating estrogen and progesterone levels during the transition to menopause – a normal process.

**Length** - This phase typically lasts two to eight years. May start in your late 30s. Hormone levels may continue to fluctuate into the year after menopause.

**Cause** - Body's production of estrogen and progesterone fluctuates which cause the changes your body goes through during perimenopause.
Perimenopause Symptoms

- Hot flashes - 65 to 75 percent of women experience
- Irregular menstrual cycles – heavier, longer, missed
- Breast tenderness
- Exacerbation of migraines
- Bladder Issues - Low estrogen makes more vulnerable to urinary or vaginal infections. Loss of tissue tone may lead to incontinence
- Mood swings
- Sleep disruption
- Vaginal dryness – decreasing estrogen reduces lubrication and elasticity making intercourse painful
- Decreasing fertility - but remember as long as you're having periods, pregnancy is possible (3/4 of all pregnancies to women over 40 are unintended)
- Sexual arousal and desire may change
- Loss of bone – increasing risk of osteoporosis
- Unfavorable changes in cholesterol levels – increases risk of heart disease
- Treatments are available to help ease these symptoms – see your doctor
Menopause

- **Defined** - After 12 consecutive months without a menstrual period, you've officially reached menopause.

- **Cause** - Your ovaries produce much less estrogen and no progesterone, and they don't release eggs.

- **Early** - Women who smoke are more likely to begin menopause before the age of 45 years, which puts them at increased risk of osteoporosis and heart disease.

- **Late** - BMI affected timing of Menopause – the greater the BMI the later the onset of Menopause.
Menopause weight gain: Stop the middle age spread

Most women gain weight as they age, but excess pounds are not inevitable
What causes weight gain in menopause?

- The most profound weight gain in a woman's life tends to happen during the years leading up to menopause.
- About 90% of menopausal women experience some amount of weight gain.
- On average, women gain between 12 to 15 pounds during the ages of 45 through 55.
- Weight gain is related to a variety of hormonal, lifestyle and genetic factors.
What causes weight gain in menopause?

Hormone Causes

- Fluctuating hormones like estrogen, testosterone and progesterone direct your appetite, metabolism and fat storage

**Estrogen**

- As a woman’s ovaries produce less estrogen, her body attempts to find the hormone in places other than the ovaries.

- Fat cells can produce estrogen, so the body works harder to convert calories into fat to increase estrogen levels.

- Unfortunately, fat cells don't burn calories the way muscle cells do, which causes weight gain

**Progesterone**

- Water retention is often linked to menopause because water weight and bloating are caused by decreased progesterone levels.

- Though this doesn't actually result in weight gain, clothes can feel a bit tighter and a woman may feel as though she’s heavier
Hormone Causes (Cont’d)

• A drop in estrogen and progesterone can increase a woman’s appetite and cause her to eat up to 67% more, according to one study.
• An increase in appetite coupled with a slower metabolism with the onset of menopause can cause weight gain in women.
Hormone Causes (Cont’d)

Testosterone

- The amount of this hormone increases at the onset of menopause – responsible for that unwanted hair growth
- Also responsible for sending new weight to the mid-section instead of to the hips: "the middle-age spread"

- Testosterone helps a woman’s body create lean muscle mass out of the calories consumed. Muscle cells burn more calories than fat cells do, increasing metabolic rate. As testosterone levels drop, fewer calories are transformed into lean muscle mass, thus a woman’s metabolism winds down
What causes weight gain in menopause?

**Lifestyle**

- **Less Exercise** - Menopausal women tend to exercise less than other women, which can lead to weight gain
- **Muscle mass naturally diminishes with age** – if not replaced body composition will shift to more fat and less muscle
  - This slows down your metabolism and the rate at which you burn calories.
  - If you continue to eat as you always have, you're likely to gain weight.
- **Life Changes** – menopause centers around profound life changes - children leaving or returning home, divorce, death of a spouse or parent, elder care issues – may increase weight gain
- **Metabolic rate** - Naturally begins to slow after age 30 – decreasing 5% per decade, which also leads to weight gain
How risky is weight gain after menopause?

The Implications Are Serious

- Weight gain after menopause increases the risk of
  - High cholesterol
  - High blood pressure
  - Type 2 diabetes
  - Heart disease
  - Stroke
  - Various types of cancer, including colorectal cancer and breast cancer.

- Research suggests that gaining as little as 4.4 pounds at age 50 or later could increase the risk of breast cancer by 30 percent
The best way to prevent weight gain after menopause

There's no magic formula

• **Move more** - include at least 30 minutes of physical activity in your daily routine and do strength training exercises at least twice a week.

• **Eat less** – you need about 200 fewer calories a day during your 50s than you did during your 30s and 40s. To reduce calories not nutrition, pay attention to what you're eating and drinking. Choose more fruits, vegetables and whole grains. Opt for lean sources of protein. Don't skip meals, which may lead you to overeat later.

• **Seek support** - Surround yourself with friends and loved ones who'll support your efforts to eat a healthy diet and increase your physical activity. Better yet, team up with a fitness expert to help make the lifestyle changes easier and safer

• **See your Doctor** – discuss your options for weight loss and hormonal support during the perimenopausal period

Successful weight loss at any stage of life requires permanent changes in diet and exercise habits. Commit to the changes and enjoy a healthier you!
Women, Weight and Hormones
...why fitness counts

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DITCH THE DIET...
it’s a Lifestyle
Regular physical activity
Key in Menopause

Whether you’ve been exercising for years or you haven’t been, physical activity during and after menopause offers many benefits.

- **Prevents Weight Gain** (Abdominal fat)
- **Reduces Menopausal Symptoms** – Fewer hot flashes and better sleep!
- **Increases Your Metabolism**
- **Increases Lean Muscle Mass** – By doing cardiovascular and weight-bearing exercises we can increase lean muscle mass now don’t get worried, this is lean muscle not bigger muscles
- **Strengthens Bones** – Doing weight-bearing exercises will keep your bones stronger, which lowers the risk of fractures or osteoporosis
- **Prevents Disease** – Maintaining a healthy weight which offers protection from breast cancer, cardiovascular issues, and type 2 diabetes. A low glycemic diet also helps keep your blood sugar level from spiking.
- **Reduces Stress/Feel Positive** - Exercising definitely will help you feel good about yourself and when we feel good about ourselves were much happier.
  - Reduced stress which causes us to release more cortisol which is the belly fat storing hormone.

It’s not about being a size 5 or 7, it’s about being healthy.
Fitness tips to help you get started

- Set reasonable goals for physical activity
- At least 150 minutes of moderate cardiovascular exercise a week = (30 minutes per day x 5 days) or 75 minutes of vigorous cardiovascular a week = 25 min per day x 3 days.
- Strength training exercises at least 2-3 x per week
- Stretching
- Balance and Stability work
- Eat a low glycemic diet
Cardiovascular Exercise

- Cardiovascular or aerobic activity is the cornerstone of most fitness programs. Walking, jogging, biking swimming or water exercises will strengthen your heart and lungs.
  - Aerobic classes
  - Dancing
  - Movement
- Remember your guidelines for time: 30 min of moderate for 5 days or 25 min of vigorous for 3 days.
- For the intensity level, I recommend using an RPE scale of 1 – 10 or get a heart rate monitor. It’s OK to start slow
- Most of all make it fun, so that it becomes a lifestyle
Strength Training

- Regular strength training helps you increase your metabolism, reduce body fat, strengthen your muscles and keep your bones strong. You will:
  - Burn more calories
  - Tighten and tone
  - Reduce your risk of osteoporosis

- Regular strength training 2-3 x per week

- Choose a weight or resistance level heavy enough to tire your muscles after approximate 10 to 12 repetitions repeat for 1-3 sets

- Make sure opposing muscle groups are worked
Stretching, Stability and Balance

• Stretching increases flexibility, joint mobility, improves range of motion and promotes better circulation

• Make sure to stretch after each work out when the muscles are warm,

• Do not overstretch, hold stretch 15-20 seconds (try a yoga class)

• Stability and balance exercises improve stability, strengthens core and can help prevent falls.
  • As we age we lose our balance. Its very important to keep our core strong, which will help our balance and posture

• Safety is very important, try simple exercises at first, such as standing on one leg, make sure you have a wall or table to assist you. Once you are comfortable with that you can try other more challenging balance exercises, keeping safe at all times (try a tai chi class)
Nutrition...not a diet, diets don't work

• Choose low glycemic foods, they keep your blood sugar level and from spiking

• Cut refined and process carbs, these foods spike your blood sugar, leaving you with cravings and make you hungry

• Choose healthy fats, extra-virgin olive oil, avocados, nuts, low-fat dairy and foods containing omega fat oils. Great for maintaining healthy cells and immune function.

• Just watch your serving size... read the label
Upcoming programs with Rondi

Mind, Body, Soul workshop – Wednesday April 20th at 6:30- 7:30 pm

This approach recognizes the complexity of human beings and the correlation between mind, body and soul. By creating a balance of these important areas one, can find true wellness and happiness. Rondi Stickney, Certified Fitness Trainer and Julia Skesick, Certified Personal Development Coach and owner of LifeScape firmly embrace this concept, Join us to have some fun , meet some friends and nurture yourself from the inside out.

This Free course brings the latest trend in living well to the suburbs in a very relaxed and fun atmosphere. Haven Medical Spa 120 E Countryside Pkwy, Yorkville. ( located inside Brennart Eye Care)  Call to reserve limited seating: 630.465.0607

Ditch the Diet... it’s a lifestyle – Thursday’s, 5 -6pm

Lose weight by learning to live a healthy lifestyle that gives you the beneficial side effect of weight loss. You’ll learn not only how to lose weight, but keep it off and achieve faster results!

Program includes informational class at the beginning and ending of session, personal Journal weekly, and individualized exercise routines. Wear work-out attire. Fee $35 June 9 –July 7th Waubonsie Campus in Plano on RT 34,. Enroll at any campus
Upcoming programs with Rondi

**Take Charge... it Starts at Home**  
*Coming this summer*

- Developed for children and parents, this program teaches families how to take control of their health with better nutrition, exercise, supplementation and lifestyle changes
  - One out of three children born after the year 2000 will develop diabetes by the age of 30.
  - The life expectancy of this generation is much lower than it's ever been.

- We know that genes effect our body weight set point, but so does our diet and environment! We can’t change our genes but we can change our diet.

- As parents we need to be examples for our children! You are their role model, they look up to you!

- This class will not only be educational for everyone, but you and your child will have fun doing it together!!! It is up to us as parents to **take charge**, change these statistics and correct the problem.

We need to help our children, they are our future  
For details call Rondi Stickney 630-742-9332  
www.rondisbodyshop.com