FLOURISH
THRIVING THROUGH EVERY SEASON OF LIFE

INTERESTING FACTS
ABOUT MENOPAUSE

Menopause & Your Changing Health

1 Alzheimer's in Women

Two-thirds of Alzheimer's patients are postmenopausal women.

2 Hormone Fluctuation and Treatment

Hormone levels fluctuate, and doctors often base treatment on a patient's improvement.

3 Menopause and Aging

Menopause is associated with accelerated cellular aging and declines in general health.

4 Menopause and Osteoporosis

Loss of estrogen in menopause is the most common cause of osteoporosis in women, leading to increased bone weakness and fracture risk.

5 Menopause and Heart Disease Risk

Menopause increases the risk of coronary artery disease due to hormonal changes that negatively impact blood vessel function.

6 Impact of Hormonal Changes

Decreased estrogen and progesterone during menopause can lead to blood vessel constriction, increased clot risk, and reduced blood flow.

Muscle Health, Hormones & The Endocrine System

7 Sarcopenia

- **Definition:** Progressive age-related loss of skeletal muscle mass, strength and function.
- **Causes:** Increased inflammation, aging, insulin resistance, and loss of estrogen.

8 MHT Benefits

Increases estrogen receptors in muscle, improving muscle power, contraction, and composition.

9 The Endocrine System — Key Components

A network of glands that produce and regulate hormones, including:

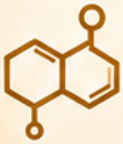
✓ Pituitary Gland ✓ Pineal Gland ✓ Hypothalamus
✓ Thyroid Gland ✓ Adrenal Glands ✓ Pancreas ✓ Ovaries

10 Endocrine System Function

Produces and releases hormones that influence almost every cell and function in the body.

11 Hormones Reduced During Menopause

Estrogens, progesterone, and androgens.

12 Estrogen Types

- **Estradiol** — strongest, produced by ovaries.
- **Estriol** — produced mainly during pregnancy.
- **Estrone** — weakest, produced by fat tissue after menopause.

13 Estrone's Role

Helps reduce bone loss and aids in tissue maintenance after menopause.

ROAR

INTERESTING FACTS
ABOUT MENOPAUSE

Brain Health, Memory & The Hippocampus

Estrogen & the Brain

Recent studies suggest that oestrogen is produced not only in the ovaries, but also in the hippocampus in the brain.



14 **Estrogen in the Hippocampus**
Supports sharper memory formation and retrieval.

15 **Enhanced Episodic & Verbal Memory**
Helps encode and retrieve new personal events and verbal information.

16 **Better Spatial & Associative Learning**
Supports learning patterns, relationships, and navigation.

17 **Faster, More Efficient Memory Networks**
Increases synaptic transmission that underlies learning and memory.

18 **Neuron Energy & Protection**
Promotes better energy supply, more resilient synapses, and protection against injury and age-related decline.

How Estrogen Supports Brain Function

1 **Structural Plasticity**
Creates more synapses and stronger connections between brain cells, enhancing learning and memory (LTP).

2 **Neurogenesis**
Supports the creation of new hippocampal neurons, which help with pattern separation and associative memory.

3 **Neurotransmitter Support**
Helps regulate key brain chemicals (e.g., serotonin, dopamine, acetylcholine) that are critical for attention, mood, learning and memory encoding and retrieval.

4 **Metabolic and Antioxidant Protection**
Enhances mitochondrial function and energy production (ATP) and increases antioxidant activity, reducing oxidative damage that can impair brain cell function.

5 **Neuroprotection and Anti-Inflammatory Effects**
Regulates cell-survival pathways, helps neurons resist stress and injury, and reduces inflammation in the hippocampus, protecting long-term brain health.

The Bottom Line: *Declining estrogen during perimenopause and menopause can reduce these protective and memory-supporting effects, which may contribute to increased memory changes and a higher risk of Alzheimer's in women.*