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# FEMgen

## Examples of our Genetic Profiles:

**FEMgen:** Sporadic breast cancer  
**OSTEOgen:** Osteoporosis  
**THROMBOgen:** Thrombosis  
**PROSTATEgen:** Prostate cancer  
**DETOXgen:** Detoxification capacities  
**DETOXgen heavy metals:** Detoxification of heavy metals  
**OXIgen:** Oxidative stress  
**DENTYgen:** Periodontitis  
**NEUROgen:** Neurodegenerative diseases  
**CARDIOgen:** Cardiovascular diseases

**MACULAgen:** Age-Related Macular Degeneration  
**LIPIDgen:** Lipid metabolism disorders  
**DIABETOgen:** Diabetes type II  
**COLOgen:** Sporadic colon carcinoma  
**ALOPECIAgen:** Androgenetic alopecia  
**EMOgen:** Emotional instability  
**AUTISMgen:** Autism  
**SKINgen:** Skin health  
**WEIGHTgen:** Weight control  
**WELL-BEING:** Anti-aging  
**NICOTINEgen:** Nicotine addiction

## Menopause – Safe Hormone Replacement Therapy



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**4P GENOMICS**  
 DISCOVER YOURSELF

## What is menopause?

The hormonal levels start to decrease in women at an age comprised between 45 and 50. The female hormones (progesterone and estrogen) are produced in smaller amounts leading the menorrhoea to stop: this is called the menopause. The metabolism undergoes more or less marked modifications resulting in hot flashes, excessive sweating, nervousness, mood changes and mucosal dryness.

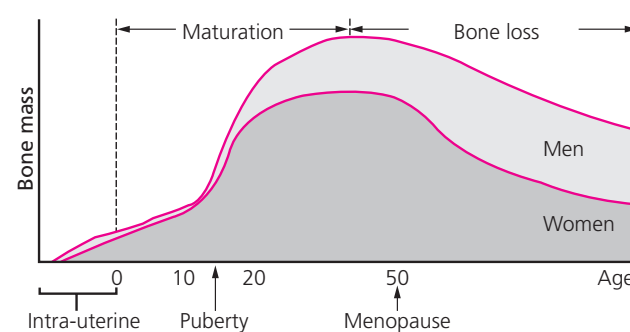
The osteoporosis risk is highly increased as the bone density decreases due to the hormonal changes (Fig 1). The risk for cardiovascular diseases is also increased.

## What is a hormonal replacement treatment?

A hormonal replacement treatment is aiming to reconstitute hormonal levels as they were before menopause. Estrogen treatment (estradiol, estriol) or progesterone treatment (chlormadinone, medrogestone, dydrogesterone, tibolone, progesterone, norgestrel, progestrone) can be administered, as a function of the required dose, either locally (gel or patches), by injection or orally.

The objective of the treatment is to reduce or to suppress the symptoms associated with menopause as well as to reduce the effects of osteoporosis.

Fig. 1: Evolution of the bone mass during life



Graphic adapted from: Fordham J. Osteoporosis: Your Questions Answered, Churchill Livingstone, UK, 2004, p. 48

## What are the consequences?

Hormonal replacement treatment is acting against natural ageing by the administration of a hormonal dose that will compensate for the reduction of the organism's hormone production, optimally leading to a hormonal state that is comparable to what is observed in younger women (Fig 2).

As a function of the individual genetic predispositions, a badly adapted dosage can provoke complications such as cardiac disorders, thrombosis and an increased risk for sporadic breast cancer.

The organism transforms the administered hormones into various intermediate products displaying several properties.

Estradiol for example is transformed into 3 major fractions:

- a cardioprotective fraction
- a fraction favouring the bone formation
- a mutagenic fraction

The synthesised amount of each fraction depends on the lifestyle, on the nutrition and on genetic predispositions.

## The Test FEMgen

FEMgen allows the determination of the risk for adverse drug reactions associated with a hormonal replacement treatment. The results of the test indicate which treatment to choose and in which dosage in order to obtain the best response.

With FEMgen, all the enzymatic systems involved in the suppression of estrogens are tested, including the biological estrogen production and the complete detoxification.

Thus, with FEMgen, the sensibility to a hormonal replacement treatment can be correctly assessed and the test helps to guide towards the best adapted treatment.

Detailed recommendations, based on genetic predispositions and on anamnesis (non-genetic predispositions), allow an individual and personalized prevention (Fig 3).

The application of the recommendations provided in the report, combined with the treatment prescribed by the physician, represent the ideal solution for an optimal follow-up of the patient's health.

In parallel to this test, we also recommend:

- **OSTEOgen** for assessing the risk of osteoporosis
- **THROMBOgen** for assessing the risk of thrombosis

## Prevention

Every woman planning to take a hormonal replacement treatment, and especially women with antecedents of breast cancer should carry out a control test before getting such a treatment.

Moreover, in some cases, the risk of thrombosis predisposition is increased.

Laboratoires Réunis have developed the test FEMgen which is aiming to prevent the complications associated with a hormonal replacement treatment.

Fig 2: Natural Menopause Hormone Level Changes

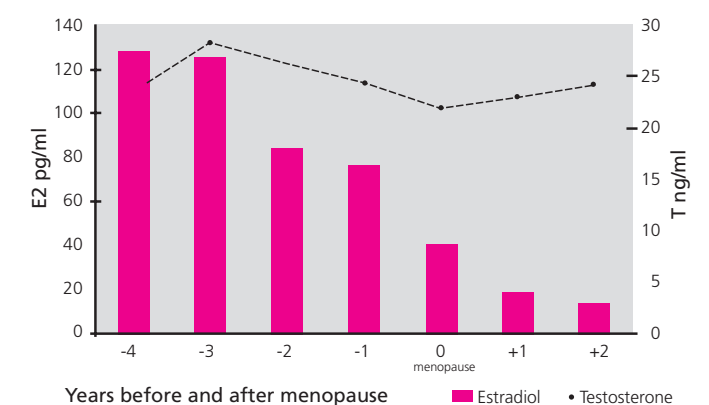


Fig. 3: Extract from a sample report

