Sex hormone fluctuations have an impact on the oral cavity. Women need to be aware of changes to their oral health and the importance of professional and home-care preventive oral hygiene treatment.

A recent study published in the *Journal of Periodontology* reported that at least 23 per cent of women between the ages of 30 and 54, and 44 per cent of women ages 55 to 90 who still had their teeth, have periodontitis – an advanced stage of gum disease that affects supporting tissues around the teeth. Left untreated, periodontal disease can lead to loss of bone and teeth.

Hormone levels fluctuate during:

- Puberty
- Menstruation
- Oral contraceptive use
- Pregnancy and lactation
- Menopause

Fluctuations in hormones do not cause periodontal disease but will cause an exaggerated response to local irritants, e.g., plaque, calculus. This can be managed by good home care and regular dental hygiene appointments.

**RISK FACTORS**

Hormonal changes not only affect the blood supply to the gum tissue but also the body’s response to the bacteria (toxins) from plaque buildup – the white, sticky substance that accumulates on teeth, especially around the gum line. As a result, at certain stages of life, women are more susceptible to developing periodontal disease, as well as other oral health problems.

Women are also more likely to be diagnosed with:

- TMJ (pain and malfunction of the jaw)
- Chronic muscle pain
- Eating disorders that may cause acid to erode enamel (the tooth’s outer surface)
- Sjögren’s syndrome, which causes dry mouth

**MAINTENANCE AND HOME CARE**

Ongoing oral assessments by a dental hygienist and an effective self-care oral hygiene regimen are necessary for successful disease prevention, especially during hormonal fluctuation. To help ensure good oral health, dental hygienists recommend the following:

- Brush teeth at least twice a day with fluoridated toothpaste.
- Clean between teeth or floss at least once a day.
- Visit a dental hygienist for a detailed oral examination and professional cleaning. In some cases, periodontal therapy may be needed to help prevent damage to the tissues and bone surrounding the teeth.
- Eat a well balanced diet.
- Avoid sugary and starchy snacks.
- Use an antimicrobial mouth rinse, if recommended by a dental professional.
- Use an over-the-counter salivary substitute for dry mouth. (See Fact Sheet on “Dry Mouth”).

**THE ROLE OF THE DENTAL HYGIENIST**

- Provides regular examinations and oral screening
- Reviews health history and medications
- Educates clients and gives instruction on effective oral care
- Develops customized home-care programs
- Provides reference material on hormonal changes
- Offers advice on healthy eating, including nutritional snacks and beverages
- Refers clients to a physician, nurse practitioner or other health-care professional, when appropriate
<table>
<thead>
<tr>
<th>Stage of hormonal fluctuation</th>
<th>Risks/implications</th>
<th>Oral signs and symptoms</th>
<th>Additional information/suggestions</th>
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| Puberty                      | With the surge in female sex hormones estrogen and progesterone during puberty, gums may be more sensitive and susceptible to oral disease. | • Red, swollen or tender gums  
• Gums that bleed when brushing or flossing  
• Sensitivity to food particles and plaque buildup | • Professional oral assessments  
• Effective home care  
• In some cases, depending on the severity of oral symptoms, more than two professional cleanings a year may be needed. |
| Menstruation                  | Menstruation gingivitis (inflammation of the gums) usually occurs a day or two prior to a woman’s period and clears up shortly after it starts. | • Red, swollen gums that bleed easily  
• Swollen salivary glands  
• Cold sores  
• Canker sores | • Professional oral assessments  
• Effective home care  
• Over-the-counter topical products (e.g., numbing gels) or systemic pain relievers may help with symptoms from cold sores or canker sores. In some cases, a medical prescription may be necessary. |
| Oral contraceptive use        | The use of oral contraceptives may aggravate sensitive gums that are prone to inflammation and bleeding at certain times of a woman’s cycle. | • Red, swollen or bleeding gums  
• A healing problem called dry socket after a tooth has been removed  
• Reaction to the sun, e.g., brown, blotchy spots | • Professional oral assessments  
• Effective home care  
• Reducing plaque buildup can help control the side effects of increased estrogen and progesterone.  
• Particular attention should be given to oral health and overall health, since oral contraceptives affect both the reproduction in women and the immune system. |
| Pregnancy and lactation       | • Pregnancy does not cause gingivitis but may aggravate a pre-existing oral condition.  
• For women at risk for tooth erosion due to repeated vomiting, rinse with water or an acid-neutralizing solution after vomiting – one cup of water mixed with one teaspoon of baking soda.  
• Wait at least 30 minutes after a vomiting episode before brushing teeth. | • Dark red, swollen or tender gums that bleed profusely  
• Gingivostomatitis – a condition marked by dry or shiny gums that bleed easily and vary in colour from pale to deep red  
• Vomiting – stomach acids can erode tooth enamel  
• Changes in saliva composition may increase the risk of enamel erosion and tooth decay  
• Pregnancy tumours (growths along the gum line and between teeth) | • Professional oral assessments  
• Effective home care  
• Minimize radiographic exposure.  
• The safest time for dental treatment is in the second trimester.  
• Talk to a nurse practitioner or physician about medications during pregnancy. |
| Menopause                     | The decline in estrogen that occurs with menopause puts women at increased risk for loss of bone density. | • Altered taste, especially salty, peppery or sour food  
• Burning sensation in the mouth  
• Increased sensitivity to hot and cold  
• Xerostomia (dry mouth) as a result of reduced or no saliva  
• Tooth decay and gum disease  
• Bone loss/osteoporosis due to decrease in estrogen  
• Receding gums and/or tooth loss due to bone loss in the jaw  
• Menopausal gingivostomatitis – a condition marked by pale, dry, shiny gums that bleed easily | • Professional oral assessments  
• Effective home care  
• Discuss hormone replacement therapy (HRT) with a physician, if appropriate. |

As professional health-care providers, dental hygienists are primarily concerned with promoting good oral health. Dental hygiene is among the largest of the regulated health-care professions in the province. In Ontario all dental hygienists are registered with the College of Dental Hygienists of Ontario, which regulates the profession to ensure the public receives safe and ongoing comprehensive oral care.