

# Research & Reviews on Pregnancy and Women's Health

## Chapter 1

### Orthodontics and Pregnancy

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#### 1. Orthodontics and pregnancy

Pregnancy is by far one of the most important experiences in the life of a woman and at the same time, one which most alters her physiology and anatomy. This experience radically changes perspectives and perceptions regarding the woman herself and the world that surrounds her.

On another level, orthodontics, as well as improving mouth functionality, significantly improves your self-image, and is *a priori* a treatment that can be carried out during pregnancy.

Whatever the case, there are certain things that you need to bear in mind if you are considering starting orthodontic treatment (aligners or braces of any kind). This is important because, in itself, pregnancy makes you susceptible to certain oral diseases, or aggravates those you might already have.

Target group will be provided with better understanding about orthodontic and pregnancy, so they will be well-prepared with the fundamental aspects that you should bear in mind if you become pregnant during orthodontic treatment, or if you begin treatment during pregnancy, are described below [1,2]:

1. Pregnancy induces or aggravates gum diseases (gingivitis and periodontitis) [3].
2. Hormonal changes affect the movement of teeth, and may slow down tooth movement, an aspect that must be confirmed in your specific case [4].

3. Orthodontics with braces may involve certain changes in your eating habits, which is an advantage for clear aligner treatments.
4. Your gynaecologist and your orthodontist should assess the effect of certain medicines taken during pregnancy in relation to any treatment.

## 2. Prior considerations to the treatment

If you have just found out that you are pregnant or are trying to become pregnant, we recommend that you consult your gynaecologist regarding orthodontic treatment, either during a preconception consultation or during your first pregnancy visit.

All dental interventions are justified or permitted during pregnancy (with the exception of whitening), but it is important that you confirm your gynaecologist's favourable opinion with your dentist or orthodontist as regard dental treatment.

Although the scientific literature supports the safety of oral interventions in pregnant women (local anaesthesia, x-rays with radiation protection and treatments such as fillings and root canals), there are some dentists who are still reluctant to carry certain interventions, and this in itself may be harmful. In obstetrics practice, we have seen pregnant patients with abscesses in their mouths or problems with their teeth, who had gone to their dentist, but, in light of their pregnancy, had not been provided with the treatment they needed.

## 3. Medical history

It is very important that you provide your orthodontist with information relating to your pregnancy [5], or provide a report listing the treatments that you are following when any treatment begins, since the vitamin complexes (folic acid, iodine, and vitamin D) that are required for the correct development of your future baby also influences the speed of teeth movement. The same is true with some anti-inflammatory drugs and analgesics.

Similarly, it is important to know your medical history (diabetes, and other previous illnesses) before the beginning of orthodontic treatment, since additional considerations may have to be borne in mind that will affect the planning of treatment or predispose you to sores that can increase the initial discomfort of brackets in some cases.

Your new hormonal situation entails a considerable rise in estrogen, progesterone and relaxin levels, which has been shown to modify the speed of movement of teeth, in some cases making displacements occur more slowly, so you must have patience if you notice a certain 'stagnation' during pregnancy.

## 4. Considerations during treatment

There are certain symptoms associated with pregnancy that can make your orthodontics uncomfortable at first, unless you decide to be treated with aligners.

1. The most frequent during the **first trimester** is nausea and vomiting, which tend to occur in the morning: this is sometimes a mild discomfort although very infrequently it may need hospitalisation (*hyperemesis gravidarum*). Whatever the case, when added to the use of brackets, the symptoms may become uncomfortable.

To minimize any discomfort, I recommend that appointments be preferably in the afternoons, when symptoms are usually milder.

2. **In the second and third trimesters**, the most important thing to bear in mind is lying in the dental chair for long periods is inadvisable, since inferior vena cava vein compression syndrome - pressure of the uterus that houses your baby on large vessels that lead to the heart - may make you dizzy or even cause you to lose consciousness.

To avoid this, check-ups during this period should be as short as possible, and if at any moment you feel nausea or dizziness you must tell your orthodontist immediately, since by turning you towards your left this can be avoided easily.

## 5. Oral hygiene and gum care

Due to the change in hormone levels that take place during pregnancy, gum hyperplasia (swelling of the gum) may occur, with the possibility of significant inflammation, known as epulis. The same hormones favour chronic inflammation, which may be accompanied by bleeding.

Before beginning treatment, it is important that a periodontist or a dental hygienist assess the state of your gums and oral hygiene habits (even if you are pregnant and go to the dentist for any other reason).

Remember that the success of orthodontic treatment depends largely on your motivation and how strict you are with your oral hygiene. Your gums must be well cared for in order to prevent periodontal disease (chronic inflammation with loss of bone tissue) or aggravating any existing disease.

All the above is of utmost importance for the normal development of pregnancy as there are **studies that relate gingivitis with problems in pregnancy**, such as the risk of premature birth [6].

You'll also experience changes in your eating habits, like eating more frequently during the first trimester to avoid nausea. In this respect, remember that all devices placed in your mouth can act as a source of plaque build-up, so you must be very strict with your oral hy-

giene and **brush your teeth three times a day, ideally with a powerbrush with oscillating-rotating technology** [7]. When brackets are involved, the increase in fixed surfaces for plaque retention means you must also use dental floss and interdental brushes to remove any food remains.

Finally, **if you vomit, you should not brush your teeth immediately afterwards** (although this may sound paradoxical) since the drop in pH in your mouth and the presence of acids weakens tooth enamel. Although there is no consensus regarding the exact time required (from 30 to 60 minutes), it is important that you wait for your teeth to recover the protective layer that has been lost after the passage of these substances and thus avoid problems of erosion or wear of the enamel [8].

We hope that this short text has been helpful with any doubts you might have regarding orthodontic treatment during this exciting stage of your life.

## 6. References

1. Sachan A, Verma VK, Panda S, Singh K. Considerations for the Orthodontic Treatment during Pregnancy. *J Orthod Res* 2013; 1: 103-6.
2. NandkishorjiSoni U, Mayuresh J. B, Nandlal G. T, R. Jethliya A. Pregnancy and Orthodontics: The Interrelation. *IJADS* 2015; 1(3): 15-19.
3. Bhushan RR, Mohan S. Orthodontic Treatment During Pregnancy. *Journal of Endofascial Sciences*. 2012; 1(1): 9-13.
4. Ghajar K, Olyae P, Mirzakouchaki B, Ghahremani L, Garjani A, DadgarE,,Marjani S. The Effect of pregnancy on orthodontic tooth movement in rats. *Med Oral Patol Oral Cir Bucal*. 2013; 18(2): e351-5.
5. Egea L, Coulibaly N, Demorersman J, Boutingny H, Soueidan A. Enquête sur la prise en charge de la femme enceinte au cabinet dentaire. *Rev Mens Suisse Odontostmatol*. 2012; 122: 1047-1055.
6. Puertas A, Magan-Fernandez A, Blanc V, Revelles L, O'Valle F, Pozo E, León R, Mesa F. Association of periodontitis with preterm birth and low birth weight: a comprehensive review. *J MaternFetal Neonatal Med*. 2017 Feb 28:1-6. doi: 10.1080/14767058.2017.1293023.
7. Yaacob M, Worthington HV, Deacon SA, Deery C, Walmsley A, Robinson PG, Glennly A. Powered versus manual toothbrushing for oral health. *Cochrane Database of Systematic Reviews* 2014, Issue 6. Art. No.: CD002281. DOI: 10.1002/14651858.CD002281.pub3
8. Moazzez R, Bartlett D. Intrinsic causes of erosion. *Monogr. Oral Sci*. 2014;25:180-96. doi: 10.1159/000360369. Epub 2014 Jun 26. Review.