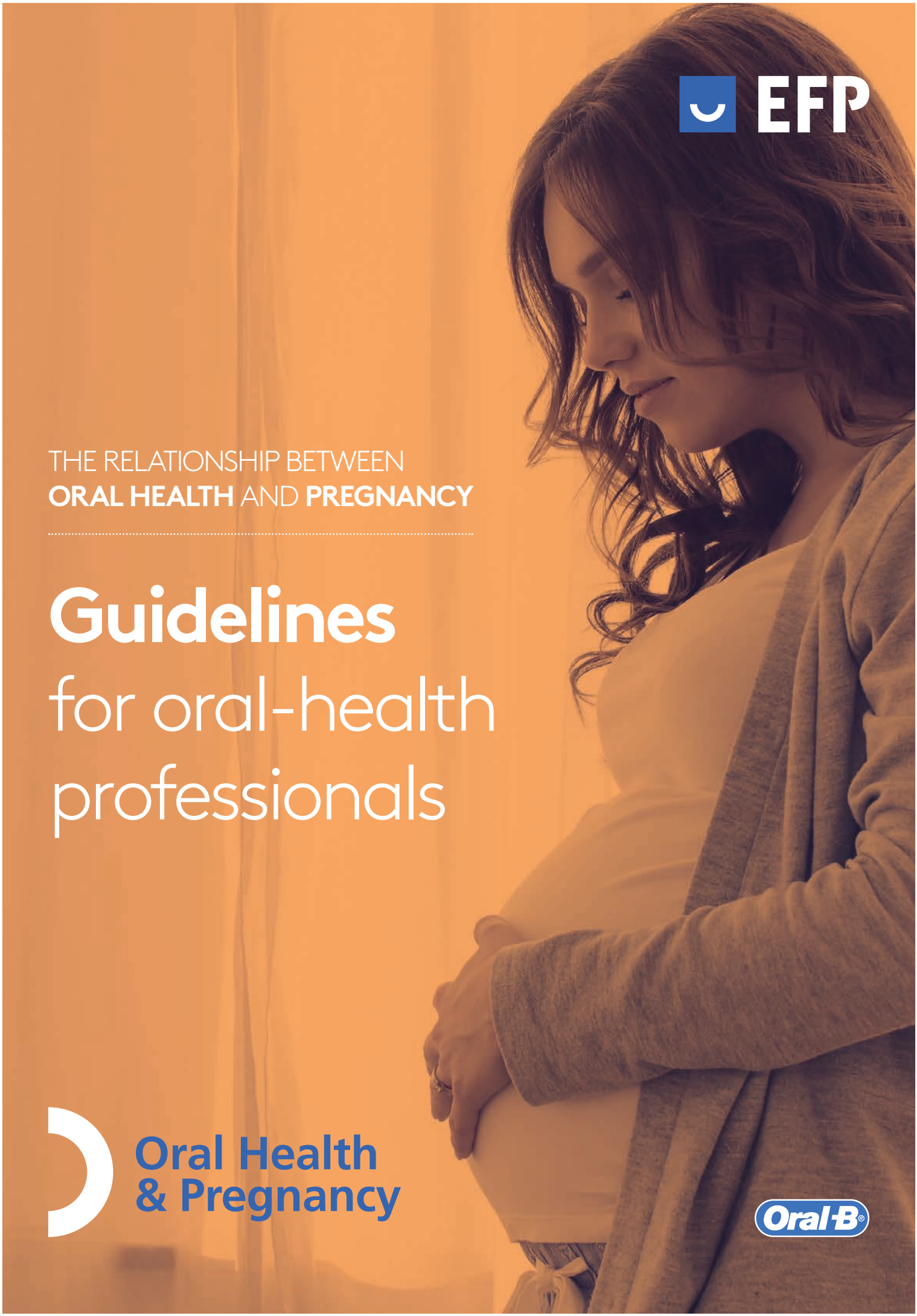

THE RELATIONSHIP BETWEEN
ORAL HEALTH AND **PREGNANCY**

Guidelines
for oral-health professionals

Oral Health & Pregnancy

EFP

European
Federation of
Periodontology

BSP

British Society of
Periodontology

Introduction

The main hormonal changes in a woman's life take place during pregnancy – and the mouth is one of the main areas affected by such changes. Elevated hormone levels (oestrogen and progesterone) significantly increase vascular permeability in the gingival tissues and, in the presence of dental plaque, promote gingival inflammation. In the cases of women who already have periodontitis, the clinical situation will worsen. Both a specific localised lesion (pregnancy epulis, a form of swelling) and a more generalised one (pregnancy gingivitis) are associated with pregnancy, although women usually revert to health after delivery.

Pregnancy may be subject to complications that include: low birth weight (less than 2.5 kg), or very low birth weight (less than 1.5 kg); preterm birth (before 37 weeks) or very preterm birth (before 32 weeks); growth restriction (weight for gestational age), pre-eclampsia (commonly defined as maternal hypertension and proteinuria after the twentieth gestational week), miscarriage and/or still birth. Some of these outcomes may occur simultaneously.

It appears that periodontitis is associated with a higher risk of low birth weight, preterm birth, and – especially – pre-eclampsia. However, research is inconclusive and solid conclusions cannot yet be drawn. Possible mechanisms that link periodontitis and adverse pregnancy outcomes involve commensal and pathogenic bacteria colonising the foeto-placental unit through haematogenous dissemination. Thus, the presence of periodontal bacteria and by-products in the foeto-placental unit may activate a local immune/inflammatory response that might subsequently contribute to the development of adverse pregnancy outcomes.

Specific plaque removal regimens, together with professional interventions, have been shown to be safe when implemented during pregnancy and efficient both in reducing gingival inflammation and in enabling periodontal health to be maintained during pregnancy.

The results of randomised clinical trials (RCTs) that have evaluated whether periodontal therapy during gestation might have an effect on adverse pregnancy outcomes have not been consistent. The larger and better-quality studies have generally shown that non-surgical periodontal therapy during the second trimester of pregnancy most probably does not alter the incidence of preterm birth and low birth weight. However, a positive effect of periodontal intervention in decreasing rates of preterm birth and low birth weight may occur in women who are at high risk of adverse pregnancy outcomes. These trials have shown that non-surgical periodontal therapy during pregnancy is safe for both the mother and the foetus, and that it improves the periodontal status of most pregnant women with periodontal disease, although falling short of eliminating gingival inflammation.

Based on our current understanding of the effects on the foetal-placental unit of maternal periodontal infections and inflammation, it is likely that periodontal therapy would be more effective in reducing the risk of adverse pregnancy outcomes if it took place before conception.

Recommendations for oral health professionals

Pregnancy is a unique period during a woman's life that is characterised by complex physiological changes, which may affect oral health. At the same time, oral health is key to overall health and well-being. It is therefore essential for oral-health professionals (dentists, dental therapists, dental hygienists, and periodontists) to provide pregnant women with appropriate and timely oral healthcare, including oral-health education. These are the preventive, diagnostic, and therapeutic recommendations:

Evaluation:

When evaluating the periodontal health of any female patient of childbearing age, oral-health professionals should always ask whether she is pregnant or is trying to become pregnant, and they should always consider pregnancy status before recommending any oral-health intervention. Women who are not pregnant should be informed of the importance of oral and periodontal health during pregnancy and the relevance of adequate therapy to treat existing periodontal diseases before becoming pregnant.

Pregnant women:

In cases of pregnant women, oral-health professionals should:

a. Identify the stage of pregnancy;
b. Confirm a medical history – with an emphasis on any history of adverse outcomes from previous pregnancies, hypertension, diabetes, cardiovascular disease, etc. – along with details of medications taken;
c. Assess risk factors including smoking status.
d. Perform a comprehensive oral evaluation including a periodontal examination, which should include evaluation of plaque accumulation, gingival inflammatory status (bleeding on probing), and periodontal probing. Depending on the result of this periodontal examination, a periodontal diagnosis of "healthy", "gingivitis", or "periodontitis" should be identified and specific measures should be implemented.

Healthy periodontium:

Pregnant women with a healthy periodontium should be provided with oral-health education and general health advice. They should be instructed on how to prevent periodontal and oral diseases – not only during pregnancy, but throughout life and in relation to the future oral health of their children. The oral-health professional should inform women of the periodontal events that usually occur during pregnancy (increase in vascularity, possibility of a higher incidence of bleeding, and gingival enlargement) and of the general adverse outcomes that may occur during pregnancy (hypertension, gestational diabetes, etc.).

In case of perceived medical risk, women should be referred to physicians. Even in the absence of disease, an important component in oral-health education should be training and motivation in periodontal self-assessment and in plaque removal practices, with special emphasis on interdental cleaning. Women should be given a re-evaluation at a later stage of their pregnancy.

Gingivitis:

Pregnant women with gingivitis should have the same health advice and educational measures as healthy pregnant women, as well as a professional intervention. It is important to emphasise that all preventive, diagnostic, and therapeutic oral procedures are safe throughout pregnancy and that these measures are effective in improving and maintaining oral health. This professional intervention is aimed at removing dental biofilm and calculus from tooth surfaces.

Different adjunctive chemical plaque-control agents in the form of dentifrices and rinses have been shown to be safe and effective in reducing gingival inflammation during pregnancy, when combined with appropriate mechanical plaque control. Oral-health professionals should re-evaluate the efficacy of this professional intervention by evaluation of plaque scores, gingival inflammation, and bleeding on probing. Once periodontal health has been reinstituted, frequent monitoring of periodontal status should be maintained throughout pregnancy and, if there is a recurrence, a similar intervention should be provided.

Periodontitis:

Pregnant women with periodontitis should also have the same health promotion and educational measures as healthy pregnant women or those with gingivitis, but additional professional intervention should aim to reduce the subgingival biofilm and calculus by means of standard non-surgical periodontal therapy.

Periodontal therapy:

Non-surgical periodontal therapy (scaling and root surface instrumentation) and extractions are safe during pregnancy, and especially during the second trimester of gestation. Dental x-rays can be undertaken and local anaesthesia can be delivered without additional risk to the foetus or the pregnant woman. The use of common painkillers and of systemic antibiotics is generally safe. However, tetracyclines and metronidazole should be avoided. Medication should be prescribed to the pregnant woman after communication with her obstetrician.

Non-surgical periodontal therapy has been shown to be effective in improving the periodontal status of pregnant women with periodontitis.

Pregnancy epulis:

In the presence of a localised gingival enlargement (pregnancy epulis), surgical excision should be delayed until postpartum and supportive measures (plaque removal demonstration and professional plaque removal) should be carried out during pregnancy and the lesion re-evaluated after delivery.

Periodontal surgery:

If possible, extensive traumatic interventions (periodontal surgery) should be avoided during pregnancy. Recommended periodontal treatments should be avoided in the first trimester because of possible stress to the foetus and should preferably be performed during the second or third trimester.

Evaluation of periodontal therapy:

Oral-health professionals should evaluate the efficacy of periodontal therapy by means of plaque scores, gingival inflammation, bleeding on probing, and probing pocket depths. Once periodontal health has been re-instituted, frequent monitoring of the periodontal status should be maintained throughout pregnancy and, if there is a recurrence, a similar intervention should be provided.

Association with adverse pregnancy outcomes:

Oral-health professionals should be aware that there is a potential association between the presence of periodontitis and adverse pregnancy outcomes. Thus, periodontal treatment should be performed without hesitation during pregnancy. Indeed, although non-surgical periodontal therapy during the second trimester of gestation does not seem to alter the risk of adverse pregnancy outcomes in most women, there does seem to be a reduction in the incidence of such outcomes in specific patient populations, such as pregnant women at high risk of pregnancy complications.

Pre-pregnancy treatment:

Based on our current understanding of the biology involved in the possible association of periodontal disease and adverse pregnancy outcomes, it is likely that periodontal therapy would be more effective in reducing the risk of these outcomes if it were performed before conception. Therefore, oral-health professionals should communicate frequently with women in their fertility years and emphasise the possible benefits of pre-pregnancy treatment and of the establishment of healthy periodontal conditions during pregnancy.

Oral Health and **Pregnancy**: the project

Oral Health & Pregnancy

The aim of the Oral Health and Pregnancy project, a collaboration between the European Federation of Periodontology (EFP) and Oral-B, is to promote women's oral health during pregnancy through guidelines for patients and for healthcare professionals.

The importance of oral health during pregnancy cannot be underestimated. Scientific studies have shown connections between gum disease and adverse pregnancy outcomes such as premature birth, low birth weight, and pre-eclampsia.

The Oral Health and Pregnancy project offers the site oralhealthandpregnancy.efp.org wich is full of advice – based on the latest scientific evidence – about the steps that need to be taken to ensure good oral health in pregnant women. The portal includes written, graphical, and video material in three areas:

- *The importance of women's oral health during pregnancy;*
- *The links between periodontal diseases and pregnancy;*
- *Preventing and treating periodontal disease during pregnancy.*

At the heart of the Oral Health and Pregnancy portal are sets of guidelines about oral health in pregnant women for dentists, dental hygienists, other health professionals, and for women themselves. These guidelines have been drawn up by some of the world's leading experts in periodontal science and are based on the results of numerous scientific studies.

The project will also provide a toolkit for the 30 national societies of periodontology which are members of the EFP to enable them to run their own campaigns on oral health and pregnancy, whether through similar portals or through the production and distribution of leaflets based on the guidelines. This toolkit will enable the important information contained in the guidelines to reach health professionals and women across Europe in local languages and adapted to local needs.

oralhealthandpregnancy.efp.org

A joint
EFP - Oral-B project

European Federation of Periodontology

*The **European Federation of Periodontology** (EFP) is the leading global voice on gum health and gum disease and the driving force behind EuroPerio – the most important international periodontal congress – and Perio Workshop, a world-leading meeting on periodontal science. The EFP also edits the* Journal of Clinical Periodontology, *one of the most authoritative scientific publications in this field.*

The EFP comprises 30 national societies of periodontology in Europe, northern Africa, Caucasia, and the Middle East, which together represent about 14,000 periodontists, dentists, researchers, and other members of the dental team focused on improving periodontal science and practice.

www.efp.org

***Oral-B** is the worldwide leader in the over $5 billion tooth-brush market. Part of the Procter & Gamble Company, the brand includes manual and electric toothbrushes for children and adults, oral irrigators, interdental products such as dental floss, together with toothpastes and mouth rinses. Oral-B manual toothbrushes are used by more dentists than any other brand in the USA and many international markets.*

Oral B has been an EFP partner since 2009 and has participated in many EFP events, including EuroPerio7 (2012) and EuroPerio8 (2015) as a Diamond sponsor, the EFP Postgraduate Symposium in 2013 and 2015, and the European Workshop in Periodontology in 2014. The company will be a Diamond Sponsor of EuroPerio9, which takes place in Amsterdam in June 2018.

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