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## Oral Epithelial Dysplasia

### What are the aims of this leaflet?

This leaflet has been written to help you understand more about oral epithelial dysplasia. It tells you what it is, what causes it, what can be done about it, and where you can find out more about it.

### What is oral epithelial dysplasia?

Oral epithelial dysplasia is a term used to describe pre-cancerous changes in the cells and tissue architecture that make up the lining (epithelium) of the mouth. The changes occur because of damage to the cells' DNA (genetic makeup) by cancer causing chemicals (carcinogens). Your dentist or specialist may suspect dysplasia if you have a white, red or speckled patch in your mouth but the term can only be used once the cells (and tissue) have been looked at under a microscope by a pathologist. For this purpose it is necessary to perform a biopsy (remove a small piece of tissue) to send to the pathology laboratory.

Following a careful examination, the pathologist will grade the cell (and tissue) changes as mild, moderate or severe. Some white or red patches may not have any dysplasia at all and be reported as non-dysplastic. Some patients may have a mixture of two grades of dysplasia. This concept of investigation is very similar to having a cervical smear for a gynaecological examination, but in the mouth a smear is insufficient to accurately grade dysplasia, if present.

This condition is not cancer (as the pathologist would exclude a cancer diagnosis during the microscopic examination). Having dysplasia however, increases the risk of developing cancer of the mouth at a later time. For this reason it is known as a "potentially malignant" condition. It is difficult to estimate an individual's risk of developing cancer but generally the risk of cancerous change is lower with mild dysplasia than severe dysplasia.

### **What causes oral epithelial dysplasia?**

The most common causes of oral epithelial dysplasia are smoking and drinking alcohol. Smoking and drinking alcohol exposes the cells (and tissues) in the mouth lining to harmful chemicals called carcinogens, which cause damage to them. Chewing tobacco and using betel nut or areca nut, alone or in combination with tobacco also causes damage to the cells and increases the risk of developing dysplasia. There is increasing evidence that oral epithelial dysplasia may also be caused by sexually-acquired human papillomavirus (HPV).

A small number of people with none of these risk factors will still get oral epithelial dysplasia, probably due to their genetic make-up.

### **Is oral epithelial dysplasia hereditary?**

Oral epithelial dysplasia is not inherited. It is a condition that can affect anyone at any age and usually develops after exposure to tobacco and alcohol. It is thought that some people may be more susceptible to carcinogens than others, resulting in increased risk of developing oral epithelial dysplasia.

### **What does oral epithelial dysplasia look like?**

Oral epithelial dysplasia cannot be seen by the naked eye but is often found within a patch on the lining (epithelium) of the mouth. The patch may be anywhere in the mouth and can be white, red, or a mixture of red and white. The patch may be any size, from a couple of millimetres to several centimetres. Occasionally there may be an ulcer present. Epithelial dysplasia may extend beyond the visible edges of the white or red patch.

### **What are the symptoms of oral epithelial dysplasia?**

The presence of oral epithelial dysplasia within a patch usually causes no symptoms. Occasionally the area may be slightly sore but this is uncommon.

### **How is oral epithelial dysplasia diagnosed?**

Oral epithelial dysplasia can only be diagnosed by looking at the epithelial lining, the tissue and cells under a microscope; it is not possible to see it with the naked eye. A sample (biopsy) is taken from an affected area inside the mouth for examination under a microscope. It is necessary to have a local anaesthetic injection to 'numb' the biopsy site before the procedure.

Research is ongoing into other ways of diagnosing cancer risk without the need for a biopsy. No alternative procedure is able to replace a standard biopsy at present.

### **Can oral epithelial dysplasia be cured?**

In a very small number of cases, oral epithelial dysplasia will resolve on its own, however, this is extremely uncommon. Treatment is available (see below).

### **How can oral epithelial dysplasia be treated?**

The treatment you are offered will be based on your grade of dysplasia and individual circumstances.

If you have mild epithelial dysplasia, usually no treatment is recommended. You will, however, be required to attend regular check-up appointments so that the patch can be closely monitored by your specialist. If any changes are noticed, a further biopsy may be needed. If your patch has been stable for some time, you may be discharged from the specialist clinic and your dentist will be asked to check the area at your routine appointments.

Moderate and/or severe epithelial dysplasia is usually treated by removing the patch surgically. In some cases, laser treatment is offered. Regular check-ups will be required after the procedure to check for any signs of the patch returning; this is a possibility in some patients.

### What can I do?

- Attend all appointments with your specialist and dentist, so that any changes in your mouth can be spotted early.
- Look out for any new or unusual signs, or symptoms in your mouth. If an existing white or red patch changes in appearance (becomes heaped up, ulcerates or changes colour) or if an otherwise painless patch becomes painful, seek advice from your dentist or specialist.
- Do not smoke or use any other forms of tobacco or any of its products. If you have difficulty giving up the habit help is available from your doctor or your local hospital. There is also an NHS quit smoking line<sup>1</sup> and weblink<sup>2</sup> site for advice.
- If drinking alcohol do so in moderation. Men and women should not drink more than 2-3 units a day. That is no more than a standard 175ml glass of wine (amounting to 2.4 units) - (alcohol by volume (ABV) 14%). Or one pint of strong lager, beer or cider (ABV 5.2%).
- Eating at least 5 helpings of fruit and vegetables a day may reduce the risk of developing oral epithelial dysplasia as they contain helpful antioxidants.

### Where can I get more information about oral epithelial dysplasia?

<http://www.aaom.com/patients/premalignant-oral-lesions>

[http://www.oralcancerfoundation.org/cdc/cdc\\_chapter4.htm](http://www.oralcancerfoundation.org/cdc/cdc_chapter4.htm)

<http://www.maxillofacialcentre.com/precancerDysplasia.html>

<http://www.oralcancerldv.org>

Call smoke free: 0800 022 4 332 Mon to Fri 9am to 8pm, Sat and Sun 11am to 5pm - <http://smokefree.nhs.uk/ways> to quit

Note: If you wish to know more about biopsy investigation procedure please refer to our patient information leaflet on “Oral Biopsy”

*This leaflet has been prepared by the British Society for Oral Medicine (BSOM). It is reviewed periodically to reflect relevant advances and improved understanding. Not all the information will be relevant to all patients. For individual advice please see your Oral Medicine specialist.*

*This leaflet is available online at [www.bsom.org.uk](http://www.bsom.org.uk) Review date April 2019*