

Mouths made bad by cancer treatment

For too many people, chemotherapy and radiation mean oral mucositis. So, before you start cancer therapy here's what you need to know:

Oral mucositis

What is it?

Oral mucositis is a side effect of cancer therapy and is characterized by a red, swollen and ulcerated mouth and tongue

- The hallmark of oral mucositis is pain. The pain can become so severe that it is hard to eat, drink and even speak
- There are 4 stages of oral mucositis. Stage 1 and 2 are mild and characterized by soreness and the beginning of ulceration. During stage 3 and 4, oral mucositis is more severe. At stage 3, sufferers cannot tolerate solid food and so switch to a liquid only diet. Eating is not possible at stage 4 so people may need further help getting enough nutrients¹
- Many people develop mild oral mucositis as a result of cancer therapy, but stages 3 and 4 are less common
- Oral mucositis is called stomatitis by some doctors and nurses

What causes it?

Chemotherapy and radiation

- Chemotherapy and radiation work by preventing the growth of new cancer cells by killing rapidly dividing cancer cells that are already there
- Healthy mouth cells quickly divide and replace surface cells in the mouth with new cells. However, cancer therapy also kills these dividing mouth cells meaning the surface cells cannot be replaced, causing ulcers to form
- The combination of chemotherapy and radiation increases the risk of developing severe oral mucositis.² The symptoms of oral mucositis also tend to get worse the longer radiotherapy treatment lasts³
- Glands that produce saliva (spit) are also damaged so the mouth becomes dry and more likely to be injured by hard food

Oral mucositis

What causes it? (cont.)

- There are many types of chemotherapy that are known to cause oral mucositis. Some of these therapies are listed below:⁴
 - 5-fluorouracil
 - methotrexate
 - doxorubicin (Adriamycin[®])
 - etoposide (Vepesid[®])
 - melphalan
 - cyclophosphamide
 - capecitabine (Xeloda[®])
 - docetaxel (Taxotere[®])
- All radiation that passes through and near the mouth is very likely to cause oral mucositis

Who gets it?

Most people receiving chemotherapy or radiation are at risk. However, almost everyone receiving head and neck radiation or a Hematopoietic Stem Cell Transplant (HSCT) (sometimes called a Bone Marrow Transplant [BMT]) will get oral mucositis

- The likelihood of developing oral mucositis varies depending on the situation, lifestyle and medical history of the person

Those at particular risk are:

- children and the elderly
- those with previous oral health problems or oral mucositis
- people who have poor oral hygiene during treatment
- smokers
- people who drink alcohol
- diabetic patients
- those receiving certain types of chemotherapy (see above)

How long does it last?

With both chemotherapy and radiation, damage to the lining of the mouth starts on day one of the treatment. The first stages of oral mucositis happen below the mouth's surface and are not always noticeable

With chemotherapy:

- Typically people start noticing symptoms 5 to 8 days after starting chemotherapy. The symptoms can last between 7 to 14 days before healing begins
- With each cycle of chemotherapy the risk of developing oral mucositis increases and the severity of the condition often worsens³

With radiation:

- Oral mucositis manifests later with radiation (at 2 weeks) and healing doesn't begin until the end of therapy. Therefore, the symptoms can continue for up to 8 weeks

Oral mucositis

What are the consequences?

Pain

- Pain can make it very difficult to eat and drink, at a time when people with cancer need the physical strength to cope with aggressive cancer therapies

Infection

- The sores and ulcers that line a mouth are at serious risk of infection. If they do get infected, the infection may be able to move into the blood. This is called a blood infection or sepsis
- People receiving a Hematopoietic Stem Cell Transplant (HSCT) are more likely to get sepsis, as treatment means their bodies are less able to fight off infection

Loss of taste

- If the tongue is exposed during radiation, the taste buds on the tongue's surface may get damaged. Some patients may even experience a complete loss of taste
- The taste buds will usually begin working normally again within 4 months of finishing treatment, although the long-term effect is different from person-to-person and in some cases the taste buds may never fully recover

Treatment outcome

- Perhaps the most worrying consequence of oral mucositis is that many people develop it so severely it interferes with prescribed cancer therapy. This could ultimately influence the success of the cancer treatment

Other

- People with oral mucositis can sometimes feel embarrassed about their condition and so they spend less and less time with their family, children and friends. This, along with not being able to eat and talk, can lead to feeling lonely and depressed
- In head and neck cancer patients, thick and sticky mucus often builds up inside the mouth and throat. The use of a suction pump is sometimes required to dislodge this stringy saliva
- If eating enough food becomes a major concern, the use of a feeding tube may be needed to ensure the person receives enough food to deal with their therapy

For information on how to manage oral mucositis speak to your doctor or nurse and read the other resource factsheets available at www.mouthsmadegood.com

References:

1. World Health Organization. Handbook for reporting results of cancer treatment. Geneva, Switzerland: World Health Organization, 1979. 2. Treister N, Sook-Bin W. Chemotherapy-Induced Oral Mucositis, 2008. Available at <http://emedicine.medscape.com/article/1079570-overview>. Last accessed January 2010. 3. Sonis ST. *J Support Oncol* 2004;2:3–8. 4. Pico J-L et al. *The Oncologist* 1998;3(6):446–451.