

# “The surveillance of patients is each and every dentist’s duty”

An interview with Prof. Newell Johnson, Australia

Oral cancer poses a continuing challenge for dental practitioners worldwide. *today international* recently had the opportunity to speak with oral cancer expert Prof. Newell Johnson from Griffith University’s School of Dentistry and Oral Health in Southport, Australia, about the disease and new methods of identification and treatment.

**today international:** Oral cancer figures seem to be increasing worldwide, despite awareness campaigns run by dental organisations. Are we in danger of losing the battle against the disease?

**Prof. Newell Johnson:** There is some good news. In countries that have long had the reputation of having very high rates of oral cancer, such as parts of France, India and Sri Lanka, the rates of alcohol and tobacco-related oral cancer are indeed falling.



Prof. Newell Johnson

The same is true of the US, much of Western Europe, and Australia. Here rates are falling from a lower base.

In those countries or populations with traditionally very high rates,

however, hundreds of thousands still die of oral cancer every year. In parts of Eastern Europe and the former Soviet republics, rates of these cancers are rising, we think, because of still high tobacco use, abuse of alcohol and a poor diet.

The other piece of bad news is that the incidence of cancers of the oropharynx (as opposed to the lip and in the mouth itself) is also increasing worldwide.

**HPV has been identified as a growing risk factor for oral cancer. What part does the sexual transmission of the disease compared with more commonly known factors like smoking or drinking?**

Certain types of the human papillomavirus are indeed strongly associated with cancers of the upper aero-

digestive tract, particularly of the tonsils and base of the tongue, rather than in the mouth itself. These are the same viruses that we know cause cancers of the uterine cervix, penis and anus. It is generally thought that sexual transmission is involved. The evidence is largely circumstantial; that is, these cancers are more likely among younger adults, and there are associations with the number of sexual partners. Fortunately—if that is an appropriate word—these cancers are more sensitive to radiotherapy, and the survival rates/treatment outcomes are better than for most other head and neck cancers.

For the past decade, there have been extensive immunisation programmes against these particular papillomaviruses delivered to girls in many countries. These are intended to prevent cancer of the uterine cervix in later life. It will be very interesting to observe, in another 20 years or so, whether this has had an impact on upper aero-digestive tract cancers too. Fortunately, we are beginning to see boys now included in the immunisation programmes in some countries.

**Some forms of oral cancer have a patient survival rate of only 50 per cent. What makes it so difficult to achieve a more successful therapeutic outcome?**

The average survival at five years after diagnosis of oral cancer has hovered around 40 to 50 per cent for decades in most countries. In the high-volume specialised treatment centres, patients are indeed doing better, in terms of long-term survival and quality of life/minimisation of disability and side-effects.

The major reasons that we are not doing even better is because so many cases are diagnosed and treated so late, and/or patients have severe co-morbidities such as diseases of the cardiovascular system or cancers at other sites.

**Dentists can play a vital role in the identification of early signs of oral cancer. Is the profession sufficiently prepared for this role?**

Well, of course one cannot generalise. Many dentists and other members of the oral health team carry out excellent surveillance of each patient. This is indeed our duty. It might be called “opportunistic screening”. Many national dental associations, and the FDI World Dental Federation, vigorously promote such behaviour. There are many excellent training programmes for the detection of patients and lesions at risk. This should go hand in hand with support from dentists for tobacco prevention/cessation, moderation of alcohol consumption, promotion of healthy diets and good hygiene (oral and sexual) for all their clients.

On the other hand, the prevalence of potentially malignant disorders, and certainly of overt oral cancer, is low in many countries, so maintaining a high level of awareness and interest among general practitioners is diffi-

cult. Some are discouraged because cancer screening may not be a remunerable activity.

In South Asia, and emigrant communities therefrom, potentially malignant oral disorders are common, and we have much activity with the professions and the public in these parts of the world. Recently, a study published in the *Cancer Research* journal has proposed a method of treatment by blocking a protein that plays an important part in the spread and return of oral cancer.

**What are your views on this research and what are other promising therapeutic approaches?**

There are very many biochemical/molecular pathways involved in cell division, maturation, migration and metastasis, and death within tissues. Many are targets of investigation and manipulation. Some will prove irrelevant—or at best epiphenomena. Interference with some will also affect normal tissues, especially if they represent exaggeration of pathways that are part of normal cellular controls.

An attraction of this particular work is that it seeks to understand pathways critical to stem cells—those cells that provide the basis for continued cell renewal. At the moment, the observations on this pathway in human cancers have been explored in experimental animals. It is some way from human treatment trials, though there are many human studies of other putative biological treatments for oral and other cancers. In principle, this is the way forward.

**There are a number of oral cancer-screening systems available on the market but their penetration is still very low. Why is this technology not yet part of dental practice?**

For cancers, and for potentially malignant disorders, in the mouth itself, direct visual inspection and palpation, followed by referral or biopsy, is the best approach. Adjunctive screening tests have not been demonstrated to have utility beyond this and commercialisation can be counterproductive.

**You have already mentioned genetics. What role will it play in the evaluation of oral cancer in the future?**

Well cancer is, of course, a genetic disease. There is a small component of inherited genetic susceptibility, but nothing as important as with breast cancer, for example. There is a large component of acquired genetic abnormality, which is being gradually unravelled. So genetic testing is of increasing importance, perhaps for susceptibility, more so for early changes in the tissue during carcinogenesis, the latter perhaps detectable in saliva or blood too.

However, every cancer is a unique biological event in a unique individual. Detecting the spectrum of genetic abnormalities in the individual patient, and targeting these with particular designer drugs, or gene therapy or immunotherapy is exciting: we are in the era of personalised medicine. Extensive surgery, radiotherapy and chemotherapy have not brought the improved outcomes we so desperately need. For the afflicted, the future will be individualised biotherapies. For the world, the future must be primary prevention.

**Thank you very much for this interview. ◀◀**

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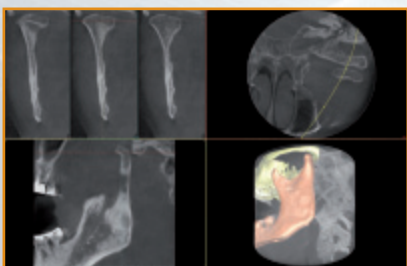
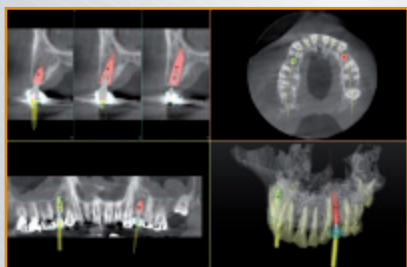
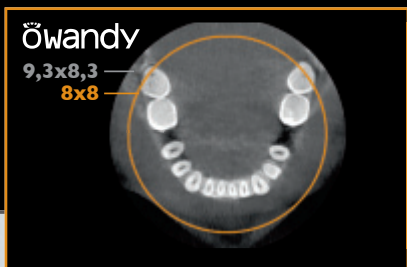
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