

The outlier cancer:

We're
behind
the
curve

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WHEN YOU THINK OF DENTISTRY, you think of hygiene, beautiful cosmetics, lasers, CAD/CAM, and other advanced technologies to make treatments easier. The last thing that comes to mind is cancer. Patients perceive going to the dentist with semiannual cleanings, veneers, teeth whitening, orthodontics, dentures, or emergency visits for a toothache.

Dentistry has been adopting technology over the past decade in the areas of laser dentistry, sleep medicine, pain-free whitening, crowns in a day, CAD/CAM, and more to offer patients. These procedures are becoming the standard of care in today's dental office. But even with all of these technological advances, most dental offices are still using technology from the 1800s when screening for oral cancer (if they even do it at all). Dentistry is way behind the curve with regard to cancer screenings.

Oral cancer has increased every year over the past eight years in the United States, and it continues to rise today. A decade ago, in 2006, the oral cancer incidence rate was about 30,000 cases per year, resulting in 7,430 deaths. This year, the oral cancer incidence rate has increased to approximately 50,000 cases and has resulted in almost 10,000 deaths in the United States.¹ To put that in perspective, one American dies every hour from oral cancer.

The traditional obvious risk factors for oral cancer include tobacco (smokeless and smoked) and excessive alcohol consumption. Consuming both alcohol and tobacco at the same time results in a synergistic effect, increasing the risk for oral cancer by 30-fold.¹ The newest risk factor for oral cancer is the human papillomavirus (HPV). Many clinicians tend to avoid this topic, yet HPV is the fastest-growing risk factor¹ and results in younger patients being diagnosed with oral cancer. HPV-positive oral cancers have increased 225% in the past three decades.² These risk factors—along with just the sheer bad luck of that 7% of the population that develops cancer for no reason—have resulted in oral cancer being one of the only cancers that has continued to rise in incidence over the past decade.

Regardless of the cause of the cancer, early discovery has been proven to save lives. The survival rates for cancers are much higher if the cancer is discovered in its early stages. The same is true for oral cancer. If found early, the patient has an 80%–90% survival rate of oral cancer, while late discovery results in a survival rate of 34%–50%.¹ The great news is that most cancers are found early. Breast cancer, cervical cancer, prostate cancer, and many others are all being discovered in their early stages, resulting in a dramatic increase in survival rates. This increase in survival rates is due to preventive measures such as regular mammograms, Pap smears, prostate exams, etc.¹

Oral cancer is the outlier in the category of early detection. The vast majority, about two-thirds, of the patients who are diagnosed with oral cancer are typically diagnosed in later stages, when the survival rate is less than 50%.¹ These numbers should stress the importance of early discovery for all cancers, specifically oral cancer. Oral cancer is behind the curve primarily due to the fact that screening

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protocols haven't changed over the years. Dentists are screening for oral cancer the same way they did in the 1880s, when Ulysses S. Grant's dentist missed detecting Grant's oral cancer, which led to his early death.

Most professionals are able to recognize trends and develop game plans to determine what they can do to change those trends. We should be asking ourselves how to diagnose oral cancers at an earlier stage. In the past, many other cancers have had the same trend as oral cancer. With a simple change in protocol and incorporation of new technology, doctors changed their approach and discovered the cancers at earlier stages, resulting in increased survival rates and better outcomes for their diagnosed patients. Winston Churchill said, "Those who do not learn from history are doomed to repeat it." Let's take a look at other cancers and how we can learn from them.

In the mid-20th century, cervical cancer was one of the leading causes of cancer among women. It steadily rose in incidence rate to more than 40,000 annual cases.¹ With late-stage discovery, cervical cancer had a low survival rate. Medical professionals realized their approach needed to change, so in 1952 an annual Pap smear was recommended. Over the next few decades, cervical cancer was being found much earlier—even in its precancerous stage—and the death rate decreased 70% over that time frame.¹ Many people gave credit to the Pap smear test for changing the trends, but it actually had a very poor accuracy, especially in its first 30 years of use.¹ It was not only the Pap test that changed the trends; the doctors who implemented an advancement from their traditional screening method should be given the credit as well. Technological advancements are all around us, but the trends will continue until someone embraces those advancements to create change.

Breast cancer and prostate cancer are two additional examples. Since mammograms were implemented in 1972, the breast cancer death rate has dropped precipitously.¹ Women now understand the value of an annual mammo-

gram and its potential to save lives. On the other hand, men see the value of prostate tests. Since the controversial PSA test was implemented in 1986, the prostate cancer death rate has decreased by 45%.¹ These are two simple tests implemented due to a negative trend that have impacted cancer death rates drastically.

Looking again at oral cancer, studies support that patients are requesting screenings. In 2007 a public opinion survey was conducted for one thousand adults to learn more about what they were expecting from their dental providers. A majority (85%) of survey respondents indicated that it was important to them that their dentist check for oral cancer.³ Patients are much more educated these days and preventive in nature; they are getting their annual cancer screenings from their physicians, so why not from their dentists too? The startling result from the survey was that only

half of these patients indicated that their dentist actually screened them for oral cancer.

Maybe I am an outlier in thinking that when things are not working, we have to change the way we are doing it. Or, maybe dentistry is the true outlier in not wanting to take a new approach to a cancer that needs its trends reversed. Every day while we wait to change our protocol, patients are dying from oral cancer due to late-stage discovery.

Wayne Dyer gave us a great quote that is appropriate here: "If you change the way you look at things, the things you look at begin to change." Change the way you screen for oral cancer, and you just may save someone's life. **DE**

REFERENCES

1. American Cancer Society. Cancer facts & figures 2017. Atlanta, GA: American Cancer Society; 2017. Annual SEER report. <https://www.cancer.org/content/dam/cancer-org/research/cancer-facts-and-statistics/annual-cancer-facts-and-figures/2017/cancer-facts-and-figures-2017.pdf>. Accessed January 25, 2017.
2. Pytynia KB, Dahlstrom KR, Sturgis EM. Epidemiology of HPV-associated oropharyngeal cancer. *Oral Oncol*. 2014;50(5):380-386. doi:10.1016/j.oraloncology.2013.12.019.
3. Anderson SJ. The public opinion survey on dentistry—Are you offering what patients are really looking for now? *J Cosmetic Dent*. Fall 2008;24(3).

and-statistics/annual-cancer-facts-and-figures/2017/cancer-facts-and-figures-2017.pdf. Accessed January 25, 2017.

2. Pytynia KB, Dahlstrom KR, Sturgis EM. Epidemiology of HPV-associated oropharyngeal cancer. *Oral Oncol*. 2014;50(5):380-386. doi:10.1016/j.oraloncology.2013.12.019.
3. Anderson SJ. The public opinion survey on dentistry—Are you offering what patients are really looking for now? *J Cosmetic Dent*. Fall 2008;24(3).



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