

# Screening for Oral Cancer: A Brief Evidence Update for the U.S. Preventive Services Task Force

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## Methodology

The search strategy for this brief update included a MEDLINE review for English-language articles published between 1994 and 2001 on new direct evidence on the benefits and harms of screening and treatment for oral cancer. MEDLINE was searched for articles focusing on meta-analysis, systematic reviews, randomized controlled trials (RCTs), and controlled trials reporting demonstrable health outcomes (morbidity and mortality) in humans. The Cochrane Library and National Guideline Clearinghouse were also searched for pertinent articles or recommendations.

The MEDLINE search strategy combined the exploded MeSH heading of oral neoplasm with lip neoplasm, tongue neoplasm, and pharynx neoplasm and crossed the result with mass screening, yielding 88 articles. These articles were further limited to RCTs by the exploded headings “randomized controlled trial/single-blind method/double-blind method/random allocation.” This approach identified 1 article. Limiting the search to reviews yielded 13 articles. A second search was conducted crossing the exploded MeSH headings of mouth neoplasms or oral cancer with therapeutics or

treatment, yielding 1,725 articles. Limiting the search to RCTs reduced the number of articles to 42. While none of these 42 addressed the key questions specifically, several were concerned with treatments for cancer precursors.

## Key Questions and Results

### 1. Does screening for oral cancer lead to decreased morbidity and mortality from oral cancer?

The ongoing, 2000 Kerala Trial in India is taking place in a cluster-randomized, controlled setting, with 59,894 subjects in the intervention group and 54,707 subjects in the control group.<sup>3</sup> Subjects are 35 years or older. The intervention group will receive 3 rounds of screening (oral inspection by trained health workers) at 3-year intervals. The article by Sankaranarayanan and colleagues<sup>3</sup> was the result of the first interval. Forty-seven cancers (7 resultant deaths) were diagnosed in the intervention group and 16 cancers (9 resultant deaths) were diagnosed in the control group. The difference in case fatality between the 2 groups (14.9% and 56.3%) could potentially be attributed to lead-time bias.

Systematic reviews of the evidence serve as the basis for U.S. Preventive Services Task Force (USPSTF) recommendations on clinical prevention topics. The USPSTF tailors the scope of these reviews to each specific topic. The USPSTF determined that a brief evidence update was needed to assist in updating its 1996 recommendations on screening for oral cancer.<sup>1</sup> This brief evidence update was written by Joe Scattoloni.

To assist the USPSTF, the RTI International–University of North Carolina Evidence-based Practice Center, under contract to the Agency for Healthcare Research and Quality (AHRQ), performed a targeted review of the literature published on this topic from 1994 to 2001. This brief evidence update and the updated recommendation statement<sup>2</sup> of the USPSTF are available through the AHRQ Web site (<http://www.preventiveservices.ahrq.gov>) and in print through subscription to the *Guide to Clinical Preventive Services, Third Edition: Periodic Updates*. The subscription costs \$60 and can be ordered through the AHRQ Publications Clearinghouse (call 1-800-358-9295 or e-mail [ahrqpubs@ahrq.gov](mailto:ahrqpubs@ahrq.gov)). The recommendation is also posted on the Web site of the National Guideline Clearinghouse™ ([www.guideline.gov](http://www.guideline.gov)).

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## 2. Is there new evidence of harms associated with screening for oral cancer?

No studies were identified that addressed harms associated with screening for oral cancer.

## 3. Are there effective treatments for mitigating the morbidity/mortality of oral cancer if lesions are identified earlier rather than later?

No controlled studies examining treatment efficacy of early detection of oral cancer lesions were identified. Treatment of oral leukoplakia, a form of premalignancy, has been studied in RCTs with several modalities, demonstrating success at promoting remission; but the numbers of trial patients are small (10 to 59, ~50 for most) and there have been no long-term (>2 years) follow-up studies to assess the effects on cancer incidence or mortality.<sup>4-11</sup>

## Summary

With the exception of the Kerala study,<sup>3</sup> no controlled trials have been undertaken recently to demonstrate the effect of oral cancer screening on mortality or on interim outcomes (eg, reducing the incidence of invasive disease). An update of this trial reports that after completing 2 rounds of screening, oral cancer mortality rates were similar in the screened and unscreened study groups.<sup>12</sup> No other RCTs, meta-analyses, or systematic reviews were found on the harms of screening or the benefits of early treatment.

## Recommendations of Professional Organizations

The American Cancer Society recommendation can be accessed at [http://www.cancer.org/docroot/PRO/content/PRO\\_1\\_1x\\_Oral\\_Cancer.pdf.asp?sitearea=PRO](http://www.cancer.org/docroot/PRO/content/PRO_1_1x_Oral_Cancer.pdf.asp?sitearea=PRO).

The Canadian Task Force on Preventive Health Care recommendations can be accessed at <http://www.ctfphc.org>. The American College of

Obstetricians and Gynecologists recommendation is available in text form.<sup>13</sup>

## References

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