

**Report on the Seventh Research Workshop on the  
Biology, Prevention and Treatment of Head and Neck Cancer  
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Executive Summary

The work of the program committee culminated in the first ever combination of the Annual Meeting of the American Head and Neck Society and the Seventh Research Workshop on the Biology, Prevention and Treatment of Head and Neck Cancer held in Chicago, IL August 17-20, 2006. We received over 570 abstract submissions and have awarded 115 oral and 240 poster presentations. In addition, we awarded 20 deserving recipients travel grants supported by a generous grant from the National Institutes of Health, National Institute of Dental and Craniofacial Diseases and the Office of Rare Diseases. Selected abstracts (240) were published in a special (August 2006) edition of Archives of Otolaryngology-Head and Neck Surgery and distributed at the meeting. The conference co-chairs would like to express their sincere gratitude to the National Institutes of Dental and Craniofacial Diseases and the Office of Rare Diseases for their significant and important support of the research workshop. The meeting was of superb quality with outstanding participation from physicians, scientists, and students alike that provided a unique opportunity to discuss opportunities for translation of research in head and neck cancer into novel treatment for patients afflicted with head and neck cancer.

Overall Outcome of the Meeting

There is a consensus among those attending that the Workshop was very valuable and successful. Following are some pertinent points from the surveys conducted:

- 98% of the attendees found the quality of the presentations to be good or excellent.
- 98% of the attendees found the meeting addressed the meeting objectives.
- 98% of the attendees found the meeting overall to be good or excellent.
- Most people chose to attend to “Participate in quality scientific presentations”, because of the program faculty or to present a paper.

One of the goals of the Workshop was to foster collaborations. I know of several new collaborations between investigators at separate institutions that were a direct result of interactions that occurred at the meeting. Another goal was to promote the area of head and neck cancer research among young investigators. This conference had a higher percentage of trainees (postdoctoral fellows, residents and graduate and medical students) than any one of the six previous workshops. This bodes well for future advancements in the field. Head and neck cancer continues to be studied relatively poorly compared to several other cancers but this has improved dramatically very recently with inclusion of head and neck cancer in the Specialized Program of Research Excellence (SPOR) program. Head and neck cancer remains a relatively rare disease with a poor outcome in terms of survival, and an extremely poor outcome in terms of morbidity and long-term deficits following “successful” treatment. Since the research workshop is only held every four years, it permits us to evaluate the significant advances in the field since the last conference as well as areas that need additional focus for the future. These are discussed below.

## Areas of Strength Identified in the Meeting

We were fortunate to attract two noteworthy keynote speakers to speak on important research topics. Our first keynote speaker was Lewis Cantley, Ph.D., Harvard Medical School who gave an enlightening lecture on The Discovery of the Phosphoinositide 3-Kinase Pathway. Dr. Cantley led us through the scientific discovery process of this key pathway in cancer biology. Our second keynote speaker, Andrew J Dannenberg, M.D., Director of Cancer Prevention at New York Presbyterian Hospital-Cornell spoke on Targeting the COX-2 and EGFR Pathways in Oral Carcinogenesis. The Research Program had dedicated research scientific sessions devoted to immunology, molecular markers, genetics, thyroid malignancy, epigenetics, and novel therapeutics. Clearly, major advances have been made in our knowledge of tumor genetics, molecular markers, and important epigenetic events. We have accelerated our knowledge and insight into the specific molecular pathways that are involved in head and neck tumorigenesis as well as treatment response. A pivotal advance in our knowledge of head and neck cancer since the last meeting was the role that human papillomavirus (HPV) plays in a subset of oropharyngeal cancers and that the presence of HPV portends a favorable prognosis.

Another major area of focus in this workshop was the concept of critically evaluating the functional results and quality of life as it relates to surgical and non-surgical treatment of head and neck cancer. Important presentations suggested that careful delineation of tumor targets and sparing of critical structures like pharyngeal constrictors can optimize tumor control and preserve swallowing function.

A clear focus and strength of the meeting was the opportunity for discussion of translation of research findings into clinical trials. We assembled an extraordinary panel of key players in this arena in the panel conducted on Translational Therapeutic Clinical Trials: Role of Working Groups and SPORES. Jennifer Grandis moderated this panel and the perspectives of the RTOG, ECOG, ACOSOG, SWOG and SPORE programs was presented and discussed. Another panel was assembled to discuss Targeted Molecular Therapy for Head and Neck Cancer. This panel educated meeting participants about important signal pathways, molecular targets, and status of moving novel agents into clinical trials.

Poster Tours were conducted in Outcomes/Quality of Life, Basic Science, Translational Research, and Research Potpourri. These sessions had a Tour Leader and poster presenters provided a brief synopsis of their study results. These sessions received rave reviews and had excellent participation (90.5% of participants attended poster tours). In several cases, these sessions were the springboard for dialogue and future collaboration amongst meeting participants.

A new addition to the workshop was the inclusion of Instructional Courses on the first day of the meeting. Again, participation was excellent and many courses were at room capacity. Instructional Courses were conducted on several topics of interest to the meeting participants including Getting Your Grant Funded, Genomic Proteomic Profiling of Head and Neck Cancer, Mouse Models in Head and Neck Cancer, Smoking Cessation, Alcohol, and Depression Intervention, Markers of Outcome and Response to Therapy, and Immunotherapy for Head and Neck Cancer.

## Areas that Need Additional Focus in The Future

There were many more novel preclinical and early clinical therapy studies than in previous meetings, which is important given the fact that survival of head and neck cancer has not

increased significantly over the past 20 years. While difficult and expensive to conduct, these studies have been supported through the clinical trials groups and SPORE mechanisms and this funding should be continued. Once clinically available, how these novel targeted therapies (like Cetuximab) interface with more established treatment regimens will need to be carefully evaluated and defined.

Efforts are needed to define the “HPV epidemic” as the rates of HPV presence in oropharyngeal cancers have dramatically increased over the decades. Solid epidemiologic efforts are needed as well as defining the role the recently approved HPV vaccine may have in preventing and/or treating this disease.

Carefully conducted clinical trials that compare surgical to non-surgical therapy of head and neck cancers are desperately needed to provide an evidence basis for treatment recommendations. These studies must not only evaluate disease survival but also functional outcome (voice and swallowing) and quality of life. Correlative biomarker studies are an important adjunct to these clinical trials in order to define and confirm markers that predict outcome and treatment response.

Finally, little research is ongoing in chemoprevention for head and neck cancer. Coupling our new knowledge of head and neck cancer genetics with the emerging knowledge of biochemical pathways targeted by small molecules that could reduce premalignant progression could have significant impact on head and neck cancer incidence in the future.