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## Exploring Your Research Potential!

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When your career as a dental hygienist began, did you think about research? Consider for a moment the ways research has changed patient care. For example, we no longer scale until the root is glassy smooth. Why did this theory change? Through the discovery of biofilm and the influence of the host response, we now believe that extensive scaling is not beneficial. Research has become the scaffolding for building better health care models and allows the dental hygienist an opportunity to expand professionally. Although, dental hygienists are well prepared to work in research, many are unaware of the possibilities.

Education standards require that all dental hygiene students receive a foundation in general education, biomedical sciences, dental sciences, and dental hygiene sciences. The goal is to produce a dental hygienist capable of caring for the public's oral health needs in both private and public health settings. Anecdotal reports from those who transitioned from patient care to a research corporation say that dental hygienists make excellent research employees. Below are some of the reasons cited:

- Collecting and synthesizing information learned through taking a medical history is a skill that can be transferred to collecting research data
- Attention to detail in every aspect of patient care is another trait that is essential in the process of conducting research.
- Organizational skills learned for patient care are very important when juggling several research processes at the same time.
- Communication with patients is likely the single most important skill.

Research is an avenue that hygienists should consider as an alternative to private practice, or for a change of pace. A common misconception is that research will not include direct patient care. The beauty of research is that you can choose to work with patients, or have no patient contact. Those who work as research dental hygienists treat patients as they normally would in private practice except that their treatment is part of an investigation. This entry-level position in research is called a clinical research assistant, and often requires a bachelor's degree.

Clinical research assistants (CRAs) are integral to collecting reliable data for a study. Studies can involve many sites across the country, and because quality research requires the CRA to be very structured in the collection of data, calibration meetings are held to ensure consistency among all CRAs. These calibration meetings provide an opportunity to collaborate with colleagues from different cities and with a variety of medical backgrounds. A dental hygienist learns skills that give new meaning to the term, "expansion of duties," by mastering duties such as drawing blood or collecting medical specimens. The outcome of a calibration session is a knowledgeable, well-organized CRA with a large network of medical and dental colleagues.

A dental hygienist with the desire to participate more in the research arena beyond the level of CRA maybe qualified to seek a variety of positions within a research company. While these opportunities vary among companies, a common step up is to Research Coordinator (RC). The role of the RC is often focused on the administrative aspect of managing the study protocols; as a result, most coordinators spend less time with patient care. As the responsibilities within the research company increase, so does the educational requirement. A RC is generally required to have a bachelor's or master's degree.

The RC will use negotiating skills, which were learned chair side with challenging patients, organizational, and communication skills when setting up a study. They establish guidelines for patient recruitment, taking into consideration the patient population, and the best way to recruit patients. The RC will also establish protocols to gather and enter data, write reports for the sponsor and/or IRB, and organize many schedules to complete the project. Whether there is a research sponsor or a single doctor conducting the research, the coordinator has the responsibility to manage the study protocols.

For the associate degree dental hygienist with a natural curiosity, or a desire to enter the world of research, the bachelor's degree program or the bachelor's degree completion (BSDC) program provides a flexible curriculum and time to focus on specific areas of interest such as research. A list of all programs can be found at [www.adha.org](http://www.adha.org). In several cases, the BSDC programs can be completed from a distance. For example, at the University of Texas Health Science Center at San Antonio (UTHSCSA), the BSDC program is currently 95% online, and includes tracks of study designed to meet the students learning goals. A student interested in research could complete a project under the direction of UTHSCSA faculty with agreed mentorship at the student's location of choice.

A master of science degree will allow additional opportunities for advancement in the research industry. For one major research company in the southern US, approximately 50% of the clinical site managers hold a master of science degree or are in the process of obtaining their MS. Learning the research process, from reviewing the literature, formulating questions, conducting a study, and reporting the findings, is integral to the MS degree and serves as a foundation for the experimental process. A colleague, Stacy, who is now the head of a therapeutic group within project management reports:

"One course that I found extremely valuable was "Analysis of the Literature." I can't count how many times each day I look up information on PubMed or another internet provider, and review client proposals including their statistical design and/or prior publications. I need to understand the scientific process as well as how studies are structured to understand that no research is perfect and most can be interpreted in many different ways. This also assists me in understanding FDA guidance documents for drugs and why certain decisions are made about safety profiles."

Opportunities for dental hygienists to participate in research exist in both Universities and the private industry. Schools are by nature the training ground for research methodologies, and a place that brings curious people together, and the combination of these 2 factors leads to discovery. Much of the time discovery is done for pleasure, but often the research dollars drive greater competition. In addition, the budget for most institutions of higher learning is enhanced with the dollars generated through research grants. In the world of private industry, several large research companies conduct trails for new drugs or treatment procedures.

Research has no failures. It establishes the format for more questions to be answered and hence, more research to be done. Questions in the dental field are endless and the need for exploration of different models, medicines, and procedures is never ending. The dental hygienist should remember the opportunities that research can provide in furthering a career.