

Continuing Competency Record (CCR): May 1, 2010 to April 30, 2011

CDHM# 1234

Dental Hygiene Practice Setting (please check all that apply):

- Clinical Therapy
- Health Promotion/Community Health
- Education
- Consultant/Presenter
- Research/Scientific Inquiry
- Administration/Management

Continuing Competency Goal #1

Self-directed Assessment

How did you determine that you had a professional need or deficiency? (See pages 6 & 7 in Section 2 of the CCP Package)

- Practice Problems and Reflection
- Using the CDHM Competencies/Practice Standards/Code of Ethics
- Questions, discussions or external feedback
- Evidence-based Practice
- Other: (Specify) _____

Goals Development and Activity Planning

Please describe the professional need or deficiency perceived: (see pages 8 & 9 in Section 2 of the CCP Package)

I have been out of school for several years and have not really ever incorporated ultrasonic scaling into my clinical practice; I practice with a new graduate dental hygienist and she uses the ultrasonic scaler along with hand scaling with virutally every client. She explains to her clients that ultrasonics is the latest technology and that it has several therapeutic benefits over and above hand scaling. This makes me feel uncomfortable for several reasons. First, I am not sure how accurate the information she is sharing is, but I feel a little out of date on my knowledge surrounding power scalers and therefore not well-equipped to have a discussion about it. Second, I would prefer that we practice in a more standarized way that is based on the most recent evidence. Lastly, I am wondering if my clients feel short-changed that they are not receiving ultrasonic debridement because they may hear about it through other clients or our staff.

CONTINUING COMPETENCY GOAL # 1: (see pages 8 & 9 in Section 2 of the CCP Package)

I will use the ultrasonics/power scalers in my dental hygiene practice in accordance with the most recent research/evidence within 6 months.

Activity Implementation & Evaluation

CONTINUING COMPETENCY ACTIVITIES: What type of activities did you participate in to support the achievement of this goal? Check all that apply (see pages 10 & 11 in Section 2 of the CCP Package)

- Educational Courses/Seminars Date of Course: March 11, 2010 Name of Course/Presenter: Power Debridement: Evidence based Guidelines for DH Practice/Dr.J.Doe
- Online Courses Date of Course: _____ Name of Course/Presenter: _____
- Advanced Formal Education Institution: _____ Name of Course/Program of Study: _____
- Professional Journals/ Articles Date Read: June 11, 2010 Journal/Article Reviewed: I conducted a literature review using pubmed database (see attached)
- Study or Journal Clubs Date(s) Met: _____ Journal and/or Topic Reviewed: _____
- Videos or DVDs Date Viewed: _____ Title of Video/DVD/Producer: _____
- Other: (Specify) educational course Please describe: "Evidence-based decision making" course provided by School of Dental Hygiene (May 15, 2010)

What was the approximate time spent participating in the activities? March course was 9:00 to 4:00 pm; May cond course was 3 hours; literature search took approximately 2 hours and reading and interpreting a few select articles took another 3 hours in total.

Did these activities assist you in meeting your Continuing Competency Goal? Met Not Met Partially Met

Please explain: There was a lot of information available that really provided me and my dental hygiene team members with up-to-date evidence to base our practice on. The course was great, but I was a little concerned that because the presenter was sponsored by an ultrasonic manufacturer I thought it might be potentially biased. I thought I should also access some current research, but I didn't know how to go about it. I attended a "evidence-based practice" workshop presented by the School of Dental Hygiene that assisted me in how to do a literature search and use health care data bases like "PubMed". I was then able to use the PubMed data base through the university library and downloaded 3 articles. These papers largely supported what I learned at the ultrasonics course and I felt comfortable sharing these findings with my practice colleagues.

Please describe the Information/Skills Gained from these Activities:

At the ultrasonics course I learned about the current technology and how to use and incorporate it into my practice. I found out that ultrasonic technology has become quite advanced. I learned how to properly use the settings on my machine and how to select the proper inserts for each clinical situation; I also learned about proper positioning for the clinician and client. At the evidence based decision making course, I not only learned how to find the evidence that applies to my clinical question, but also that clinical decisions should be made based on current evidence, my client's preferences and values and my clinical experience. Using the literature that I accessed through my literature search of the PubMed data base, I learned that current research supports using the ultrasonics scaler as an adjunct to hand scaling; Both hand debridement and ultrasonic scaling have advantages and disadvantages. Briefly, some of the additional benefits of incorporating ultrasonics to my practice include providing access to difficult to reach areas, such as furcations, it may reduce operator fatigue and the cavitation effect may have some bactericidal activity, although the latter is not completely understood. Selection of instrumentation should be based on the clinical situation and take all aspects into account. I did learn that my colleague was not entirely correct regarding some of the claims surrounding ultrasonics she was providing to her clients and so I was able to share my new knowledge (and the articles) with her and also the dentists in the practice. Overall, the new information and skills I learned supported a greater incorporation of ultrasonics into my practice.

What Changes do you intend to make in your area of dental hygiene practice as a result of these activities?

(please include the timeframe you hope to accomplish this in - i.e. immediately, within 1 year):

Most of the changes have already occurred. As a result of my continuing competency initiatives, I was able to change not only my own, but the other dental hygienist's practice. We now are both standardized in how we present information about ultrasonics to our clients and we are utilizing the technology according the most current evidence. I would however like to take a "hands-on" ultrasonics workshop and I see one is scheduled in town in 2 months. I'm really looking forward to it! The other unanticipated benefit was my taking the evidence-based decision making course; this will help inform all of my future clinical problems and decision making.

Did you implement these changes into your dental hygiene practice? Yes No In-Process

Briefly Describe:

As far as my original goal, I have been able to implement the changes to my practice. The dental hygiene team is now presenting and utilizing the ultrasonic technology according to current evidence and we are all making decisions according to the evidence-based decision making paradigm. However, there may be additional minor changes I make subsequent to taking the hands-on workshop.

If a change was made, did it help to improve your dental hygiene practice? Yes No In-Process

Briefly Describe:

This change really improved not only my practice, but I think our practice overall. We now practice in a more standardized way and we share the confidence that we are practicing according to the most current literature. This experience helped my feeling of confidence surrounding my competency. I feel better now when I encounter clinical situations that I'm not sure about; Instead of being embarrassed that I don't know something, I can easily go and check out the literature. It was great that everyone in the practice was really receptive to my new knowledge and supported the changes that I proposed. I believe that this was because I could readily show that my suggestions were evidence-based. I think the staff have more respect for me now, and the clients also seem really impressed when I share current research with them. They appreciate the services I provide even more because they recognize that they are based on their specific clinical situation and the evidence along with their individual preferences.

Were there any constraints you encountered in implementing this change? Yes No

Briefly Describe:

I was actually surprised that I did not encounter more constraints in implementing the changes to our practice from my colleagues, but instead I found them all very receptive to my suggestions. This has encouraged me to take on practice problems as they occur in the future. The primary constraint I encountered surrounded my own lack of knowledge about how to find the information I needed. This resulted in my feeling insecure in addressing practice problems, questioning my colleagues practice and changing my practice. Taking a course in evidence-based decision making and learning how to do literature searches was really quite transformational to my dental hygiene practice.

Results: Selected Literature (Abstracts) Read in Full

Darby I.; Which type of scaling system is best? Evid Based Dent. 2009;10(2):45.

DATA SOURCES: Medline and the Cochrane Central register of Controlled Trials were searched for relevant studies. STUDY SELECTION: Randomised controlled trials and controlled clinical trials conducted in vitro or in vivo on human teeth, which used plaque, bleeding, gingivitis or pocket depth, clinical attachment level, microbiological findings, patient perception and treatment time as outcome measures, were included. Case reports, letters and narrative or historical reviews were excluded and only English-language papers were considered. DATA EXTRACTION AND SYNTHESIS: The studies included differed in design and outcome so a qualitative summary was presented. RESULTS: Fifteen studies met the inclusion criteria. The Vector (Dürr Dental, Bietigheim-Bissingen, Germany) ultrasonic scaler (VUS) provided clinical and microbiological periodontal healing results comparable to scaling and root planing and a conventional ultrasonic system in moderately deep pockets. CONCLUSIONS: The VUS may be used as a gentle root debridement device for supportive periodontal therapy, as an alternative to other conventional ultrasonic systems. The operator should consider, however, the extra time needed for instrumentation.

Ioannou I, Dimitriadis N, Papadimitriou K, Sakellari D, Vouros I, Konstantinidis A. Hand instrumentation versus ultrasonic debridement in the treatment of chronic periodontitis: a randomized clinical and microbiological trial. J Clin Periodontol. 2009 Feb;36(2):132-41.

AIM: To compare the effectiveness of scaling and root planing (SRP) with the use of hand instruments to that of non-surgical treatment with the use of an ultrasonic device, using clinical and microbiological criteria. MATERIAL AND METHODS: Thirty-three patients with chronic periodontitis participated in this randomized-controlled clinical trial divided into two groups. Patients in the control group received SRP with hand instruments, whereas patients in the test group received ultrasonic debridement (UD). Clinical recordings concerning probing pocket depth, clinical attachment level, plaque index and gingival bleeding index were performed at baseline, 3 and 6 months after baseline. Subgingival samples were analysed using the "checkerboard" DNA-DNA hybridization technique for *Porphyromonas gingivalis*, *Aggregatibacter actinomycetemcomitans*, *Tannerella forsythia* and *Treponema denticola*. RESULTS: Both treatments resulted in a significant improvement in all clinical recordings. Three months after treatment, a numerical decrease was observed for *P. gingivalis*, *T. forsythia* and *T. denticola* in both groups, which was statistically significant only for *P. gingivalis* ($p < 0.05$). Inter-group differences were observed at 6 months for *T. forsythia* and *T. denticola* ($p < 0.05$), favouring SRP. CONCLUSIONS: Both treatment modalities provided comparable clinical results in the treatment of chronic periodontitis.

Arabaci T, Çiçek Y, Canakçı CF. Sonic and ultrasonic scalers in periodontal treatment: a review. Int J Dent Hyg. 2007 Feb;5(1):2-12.

Periodontal therapy aims at arresting periodontal infection and maintaining a healthy periodontium. The periodic mechanical removal of subgingival microbial biofilms is essential for controlling inflammatory periodontal disease. Mechanical periodontal therapy consists of scaling, root planing and gingival curettage. The sonic and ultrasonic scalers are valuable tools in the prevention of periodontal disease. The vibration of scaler tips is the main effect to remove the deposits from the dental surface, such as bacterial plaque, calculus and endotoxin. However, constant flushing activity of the lavage used to cool the tips and cavitation activity result in disruption of the weak and unattached subgingival plaque. The aim of the study was to review the safety, efficacy, role and deleterious side-effects of sonic and ultrasonic scalers in mechanical periodontal therapy.

Professional Activity Record (PAR):

May 1, 2010 to April 30, 2011

CDHM# _____

Activity participated in: *(please check all that apply)*

Attended Professional Meetings

CDHM MDHA Other _____ Date and location of meeting: _____

Volunteered on professional boards, councils, or committees

Name of Board, Council or Committee: _____ Date(s) of Meetings: _____

Provided information sessions/ workshops/ courses (professional or community related)

Name of session/workshop/course: _____ Date(s) of Session: _____

Volunteered as a dental hygiene mentor (approved by the CDHM)

MDHA/UM Other _____

Volunteered for existing community outreach programs

Name/Type of Program: _____ Date(s) of Activity: _____

Other: (Please Specify) _____

Please describe the **Professional Activity** you participated in or were involved with:

Briefly describe the benefits to you and/or the recipient of the **Professional Activity**:

DECLARATION: I _____ *(please print)*, certify to the best of my knowledge that the information provided on the Continuing Competency Record (CCR) and Professional Participation Record (PAR) are correct, complete, and true in every respect. I understand that this declaration has the same significance as giving one under oath.

I authorize the CDHM to seek additional information from educational institutions, regulatory agencies, or other sources as necessary in the review of my Continuing Competency Record, and also authorize all such institutions, agencies, or other sources to release such information to the CDHM and for so doing It this be good and sufficient authority.

Signature

Date