

INSIDE THIS ISSUE:

National Dental Hygienists' Week	1-3
CEO/Registrar Report	4-5
Welcome	5
Deputy Registrar Alyssa Boyer	
President Greeting	6
Complaints & Discipline	6
Welcome New Council Members	7
Volunteer Opportunities	7
SDHA Council 2022-2023	8
CDHA Corner	9
Spotlight: Health & Wellness Day	10
DDA Amendment & Public Registry	11
SDHA Office Email Change	11
More Than Just an Employee	12-15
Study Club Opportunity	16
Biofilm Beware	19-22

SDHA EDGE

SPRING ISSUE

APRIL 2022

National Dental Hygienists' Week 2022

The year 2 and 3 dental hygiene students at Saskatchewan Polytechnic took part in Dental Olympics to celebrate National Dental Hygienists' Week from April 4-10th annually. Students participated in a tooth identification relay, toothpaste/toothbrush relay, interdental wrap race, radiography race, tactile awareness relay, pin the tooth on the mouth race, dental trivia, and get to know each other bingo. The games gave students a chance to try their skills in a fun, relaxed environment. The students and faculty had a lot of fun with the events and winning teams received prizes. A big thank you to the SDHA for donating door prizes!



1st place winners Dental Olympics Year 2



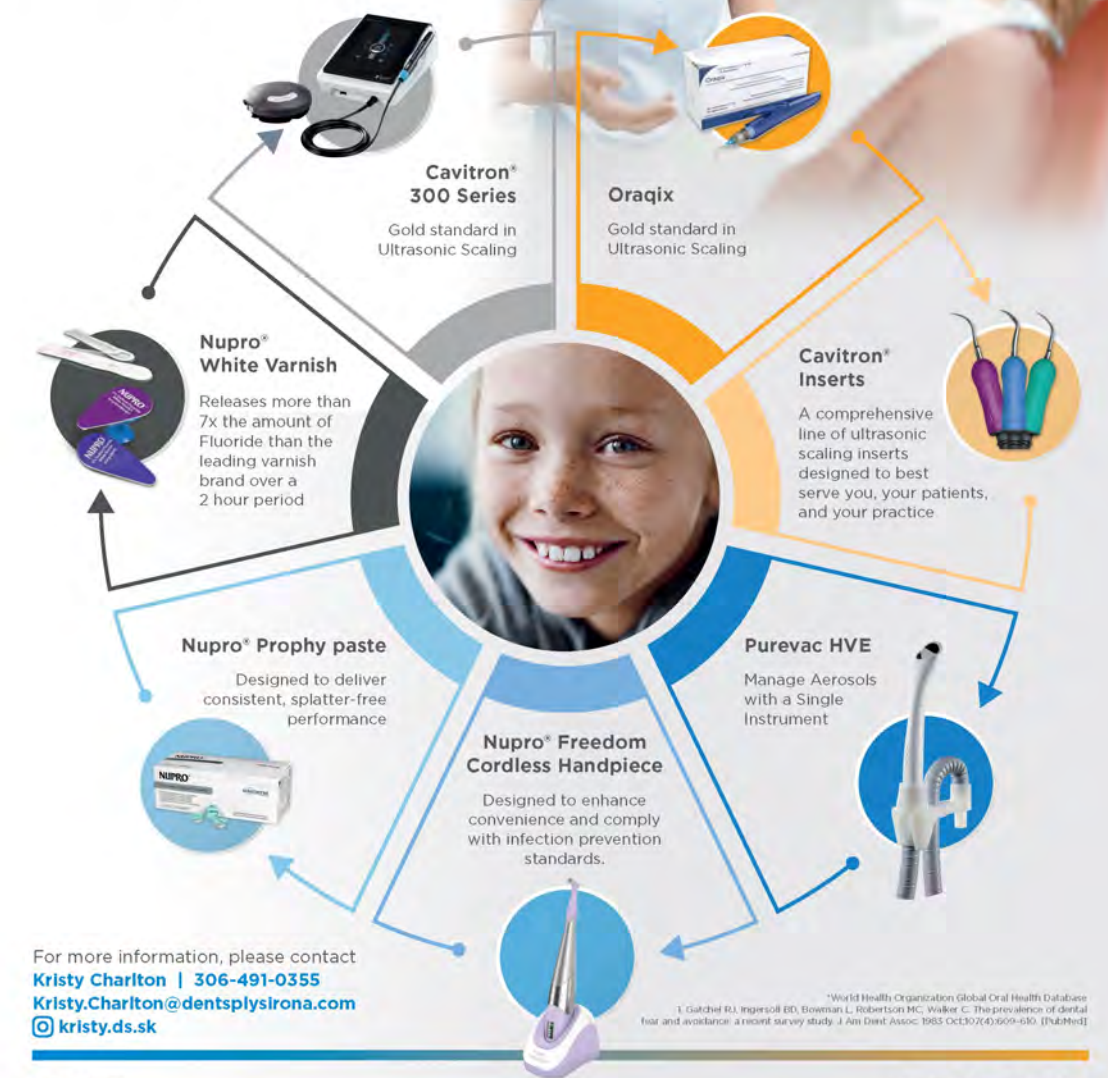
1st place winners Dental Olympics Year 3



Preventive is...YOU.

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Severe periodontal disease is found in 15-20% of adults ages 35 to 44*. You are on the front line of helping to improve your patients' lives. **Dentsply Sirona Preventive is here to help.**



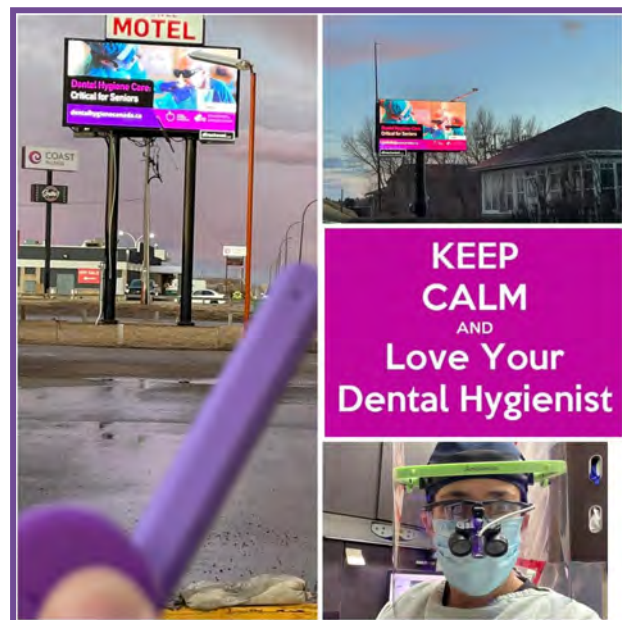
For more information, please contact
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 @kristy.ds.sk

*World Health Organization Global Oral Health Database
 1. Gulabchi B, Ingersoll BE, Bowman L, Robertson MC, Walker C. The prevalence of dental caries and avoidance: a recent survey study. J Am Dent Assoc. 1985 Oct;90(10):609-03. [PubMed]

THE DENTAL SOLUTIONS COMPANY™



National Dental Hygienists' Week 2022



CEO/Registrar - Shelby Hamm

Happy Spring everyone,

I am sure you are with me in feeling ready for some sunshine and time outdoors. This winter, the SDHA had opportunity for virtual connection with a Member of the Legislative Assembly, Vicki Mowat, the critic for health with the opposition regarding Bill 62. Bill 62 proposes an amendment to the Dental Disciplines Act to repeal Section 25 *Limitations on certain authorized practices*, currently requiring dental hygienists to be employed by or in contract with a dentist. The basis of this meeting was to capture anticipated outcomes and the SDHA's position on this matter. The SDHA is in favor of the legislation to pass in order to reduce regulatory barriers currently limiting providers from delivering the needed care, in a timely manner and in the most accessible practice setting to the public.

This is referred to as the "4-Rights" of Regulation;

- The **right** oral health professional
- In the **right** place
- The **right** services
- At the **right** time



The "4-rights" may look different among population groups and may not mirror the traditional dental practice setting. We anticipate opportunities for alternative models of delivering dental hygiene care to create the optimal dental home. Recent studies have found general oral health services for many individuals can be met by dental hygienists and therapists, with referral to a dentist to manage advanced oral disease and complex surgical interventions. Northern and rural areas of Saskatchewan will benefit most from providers with the potential to offer alternative access to care.

On February 10th, I had the opportunity to connect with the third-year dental hygiene students at Saskatchewan Polytechnic and engage in a discussion on professional practice. The SDHA mandate of ensuring people of Saskatchewan receive safe, high quality dental hygiene care and expertise from a continually advancing profession is of utmost importance as the students prepare to graduate, obtain licensure, and start their careers this summer. The SDHA looks forward to welcoming this promising group of dental hygienists into the Saskatchewan workforce following successful completion of the National Dental Hygiene Certification Board Exam.

On April 2nd, the SDHA hosted our 6th annual, and 2nd virtual conference. We are happy to report that nearly 200 Saskatchewan based dental hygienists joined online and were able to receive excellent continuing education from the comfort and safety of their own homes. Plans are already underway for next year’s conference, and we thank those individuals who participated in our post conference survey to provide feedback so that we can keep providing fantastic events in the future.

Respectfully submitted,
Shelby Hamm RDH



Welcome— Alyssa Boyer, Deputy Registrar



The SDHA is pleased to announce Alyssa (Reimer) Boyer as the incumbent for the position of Deputy Registrar starting March 1, 2022. Alyssa was born and raised in Swift Current, SK. She completed her bachelor of arts in Psychology at the University of Saskatchewan in 2014, and dental hygiene diploma at Saskatchewan Polytechnic in 2016. After four years spent serving as a SDHA council member (2016-2020), Alyssa understands the SDHA mandate of public protection and the associations’ administration. She is excited to watch the growth that is yet to come for the profession of dental hygiene. Alyssa is passionate about all things community oral health and is a routine volunteer for Health and Wellness Day. Her primary responsibilities will include professional development/conferences, maintaining the Jurisprudence Education Module, oral health promotion activities, continuing competency and general assistance of the Registrar in matters dealing with registration and licensure including complaints and discipline, and more. Welcome Alyssa!

President Greetings - Leanne Huvenaars



Dear SDHA Members,

I hope that you are all keeping well. I would like to take this time to thank you all for allowing me to be president this past year. It has been a pleasure to represent the SDHA on the many tasks that we accomplished this year. We have worked hard on the Regulatory Bylaws in anticipation of the changes in the Dental Disciplines Act, hired Shelby Hamm as Registrar/CEO, had a successful virtual conference and AGM, ownership linkage and meetings with the accountant, board meetings, as well as a position paper on Myofunctional therapy. The SDHA is a regulatory organization first and foremost. We continue as a board to work within the Policy Governance Model to ensure that our policies are robust and followed. We formulate ENDS as the end result of what the board wishes to accomplish. We also look to the future of where we believe the profession in Saskatchewan will be in 5-10 years. It is an honour and a privilege to volunteer our time to serve the SDHA. If this sounds like something you would like to be a part of I guarantee that you will not be disappointed. Volunteering is the gift that keeps on giving, to both the profession and you.

In appreciation,

Leanne Huvenaars RDH

Complaints & Discipline

The Discipline Committee reviews, upon the recommendation of the Professional Conduct Committee, complaints to determine whether the person whose conduct is the subject of a complaint or allegation is guilty of professional incompetence and/or professional misconduct. The Discipline Committee is in the preliminary process of hosting SDHA’s first discipline hearing. The hearing will be held virtually and open to the public and members. Information related to this matter will found on our website.

WORK WITH US! COMMUNITY ORAL HEALTH EDUCATORS

The SDHA is seeking Registered Dental Hygienists to provide oral health education to the public. Do you love providing community oral health education in settings such as schools and long term care homes? Send us your resume and coverletter if you'd like to hear more about this opportunity.

PLEASE SEND RESUME AND COVERLETTER
TO DEPUTY@SDHA.CA



VOLUNTEERS NEEDED!

The SDHA is working collaboratively with various stakeholders to organize a Health and Wellness Event set to take place in Northern Saskatchewan. We are looking for oral health professionals interested in giving their time to people of Saskatchewan that struggle to access dental care.

When: Early October 2022
Where: LaLoche and Clearwater River Reserve
Transportation, meals & accomodation provided

contact: deputy@sdha.ca

WELCOME NEW COUNCIL MEMBERS



Carla Ofstie, RDH



Kayla Bakken, RDH

SDHA Council 2022-2023



President
Leanne Huvenaars
(3 year March 2024)



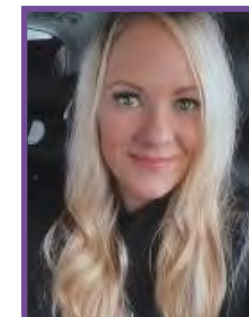
1st Vice- President
Stacie Beadle
(3 year March 2023)



2nd Vice-President
Lisa Pollock
(3 years March 2024)



Member Elect
Barbara Lacourciere
(3 year March 2023)



Member Elect
Tessa Creary
(3 year March 2024)



Member Elect
Carla Ofstie
(3 year March 2025)



Member Elect
Kayla Bakken
(3 years March 2025)



Public Rep
Raymond Sass
(3 years June 2021)

CDHA CORNER



Dear friends and colleagues,

It has been just over four months since I was welcomed on the CDHA board of directors. I encourage you all to become involved at some point in your career, because it allows you to



experience what goes on behind the scenes and participate in engaging discussions. The passion behind those who sit at the table is inspiring and continues to open my eyes to other opportunities.

Thus far, CDHA's board directors attended fall and winter virtual board meetings and have worked on subcommittees. While meeting in person is preferred, we are thankful for the virtual platforms we have, which allow us to work so efficiently. I look forward to the days when we can meet in person again. I'm sure you all can relate.

I hope many of you were able to attend CDHA's virtual conference and annual general meeting last fall. Those events were not only available live in October, but conference sessions were accessible on demand until December 31, 2021. I hope our members agree that CDHA has pivoted wonderfully during this pandemic to continue offering easy access to professional development opportunities for our members. If there are any topics or speakers you would like to see in the future, please let us know!

Kaylen Anholt, RDH
CDHA board director, Saskatchewan
sk@cdha.ca

WHAT'S NEW AT CDHA?

PROFESSIONAL DEVELOPMENT

NEW webinars recently released:

2021 Job Market & Employment Survey

Evidence-Based Strategies for Comfort & Career Longevity

Webinars coming soon:

Stay tuned for new releases

www.cdha.ca/webinars

OTHER NEWS

Oral Health Care for Seniors

CDHA recently released a discussion paper on the importance of including oral care in national standards for long-term care, as well as the results of a public opinion poll on the state of oral care for seniors. To further highlight the urgency of this cause, CDHA has launched a letter-writing campaign to provincial and federal elected officials. We will also soon release a policy white paper, *A National Oral Health Care Plan for Canadian Seniors*. Visit cdha.ca/oralhealthforseniors to review these important documents and learn more about our advocacy efforts on these priority issues.

New Injury Prevention Checklist

To help you stay healthy at work, CDHA has developed both a downloadable and an interactive injury prevention checklist. You'll find them in the Physical Health & Ergonomics section of the Healthy & Respectful Workplace area of CDHA's website. www.cdha.ca/healthyworkplace

2020-2021 Annual Report & Virtual AGM Recording

If you weren't able to attend CDHA's virtual annual general meeting (AGM), you can view the 2020-2021 annual report video presentation, which summarizes CDHA's progress over the past year in meeting the organizational ends established by the board of directors. Financial statements and a one-page "at a glance" report are also available at cdha.ca/annualreport. A recording of the business portion of the virtual AGM can be found at cdha.ca/agm.

National Dental Hygienists Week™

Don't forget: NDHW™ 2022 will be here before you know it. Mark April 4-10 in your calendars and start planning your celebrations now! www.cdha.ca/NDHW

Searching for 2022 Superheroes

Our fifth annual #dentahygienesuperhero competition, sponsored by SENSODYNE, launched February 1. We are offering a \$1,000 grand prize and two \$500 honorary mentions, along with travel grants to an upcoming CDHA conference. Visit cdha.ca/healthcaresuperhero to learn more about unmasking our next dental hygiene superhero.

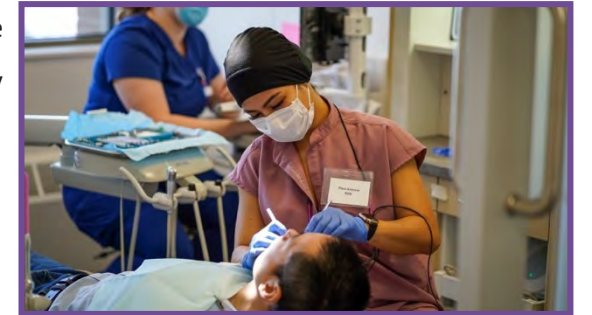
New Entry-to-Practice Competencies

The Federation of Dental Hygiene Regulators of Canada recently published the revised *Entry-to-Practice Canadian Competencies for Dental Hygienists*. These new competencies will serve in the development of dental hygiene education, accreditation, certification, and continuing competence programs across Canada and will help in the regulation of the profession. Visit fdhrc.ca/wp/wp-content/uploads/2021/12/EPCCoDH_FDHR_CNovember_2021.pdf

RDH Spotlight - Health & Wellness Day

Many groups in Regina experience barriers to accessing oral health care. Some major barriers include low income, language, lack of transportation, lack of education, and lack of child care. Individuals who experience these barriers will likely not get the dental care they need. In order

to access dental services, these barriers must be reduced or eliminated. Health and Wellness Day at Saskatchewan Polytechnic is an event that eliminates these barriers and is an opportunity for those in need to receive free dental care. In addition, bus vouchers were given to those who



do not have transportation, education on oral health was offered to all clients, interpreters were onsite, and a volunteer child care center was offered to those who have children. We partnered with the Regina Open Door Society to invite its members to take part in this oral health promotion project.



This year we had 130 volunteers, 70 clients (mainly from Regina Open Door Society) and completed a total of \$43,216 worth of dental treatment.

Following the event, clients and volunteers filled out evaluation surveys. Overall, the event was a huge success! Almost all volunteers felt prepared in their roles, enjoyed the experience, and were satisfied with the food choices we made available to them. All clients felt as though they received the treatment they needed, they gained oral education, and were respected and cared for properly.



Organized by: Hannah Derby, Taylor Lehman, Miranda McMunn and Brooklyn Maclean

Amendment of the Dental Disciplines Act (1997)

The Legislature of the Government of Saskatchewan has begun the process to amend the Dental Disciplines Act (1997) by removing section 25 *Limitations on certain authorized practices*. In the November 2021 issue of the SDHA Edge, we noted that Bill 62 was in its' first reading. Bill 62 now sits in its' third reading with the Government of Saskatchewan, and we expect will soon be at Royal Assent. Before the Act comes into place, the SDHA must update the Regulatory Bylaws, and the Minister of Health must accept these changes. Stay tuned as this years' long project continues to unfold.

Notice of SDHA Office Email Change

Shelby Hamm CEO/Registrar - registrar@sdha.ca

Alyssa Boyer Deputy Registrar - deputy@sdha.ca

Karalee Emmerson Association Administrator - admin@sdha.ca



FIND A HYGIENIST

In March 2022, we launched a FIND A Hygienist tab on our website. We will be publicly sharing licensure information including: name, registration #, licensure type, dates of registration and expiry, specializations and conditions or disciplinary action for each member (Regulatory Bylaw, Section 48). This information was always made accessible to the public but is now electronic.

More Than Just an Employee

Written by William Nippard; Top selling author, life coach, CE facilitator, and RDH.



Many employees conduct their day-to-day lives as if the means to heightened happiness and success lie *outside* them, wrapped in circumstances and the grip of their manager, supervisor, or boss. Wishful thinking propels masses of workers forward through their work-day, hoping one day their boss (or someone) will come through for them.

It really is a life enhancer - a game changer - when you grasp the truth that you have enough power and potential within *you* to achieve heightened satisfaction, both inside and outside the office. Of course, you will first be required to *find* that internal power and utilize it. I am not referring to some rare superpower here, but rather a simple concept known as personal leadership.

Personal leadership is about developing and utilizing your best positive traits to guide the direction of your life, instead of letting time and chance determine your course. It is about intentionally staying on a life-course that best positions you and those around you to live optimally and happiest. This is best accomplished through actions and decisions that align with your values and priorities.

The idea of leading yourself carries with it huge opportunities for happiness. Research has revealed that happiness is best *created*; not pursued or discovered. This is great news because it places us in control of designing our own happiness.

At the start line to this self-discovery is the release of a perception that you are *just* an employee - a powerless victim, humbly waiting for any crumbs that may be tossed to you from the boss' table. Releasing such a crippling mindset that you are less than or inadequate *positions* you to masterfully lead yourself.

Next, you decide to show up each day and aim to present the best version of yourself while positively improving the lives and happiness of those around you. Such personal leadership models a template of caring interactions that many will also adopt over time.

You see, feelings don't just magically or randomly appear. They are birthed by neurotransmitters and hormones released in your brains and various parts of your bodies. The cool part to keep in mind is that as you make those around you feel accepted, strong, and confident, these feel-good hormones also wash over *you*.

You have potential to be a powerful person of influence at work, even *without* a position of authority! First, you lead yourself by taking charge of your own actions, decisions, and thoughts. You become the manager of your own life, reclaiming the power to self-direct. Once you begin practicing personal leadership, you will then plug into your role at work as if you are the *source* of what is happening. At such a point, you view yourself as *part* of the work, rather than someone controlled by it.

Work does not have to suck simply because you are not the boss!

Psychology teaches that you cannot operate consistently outside the boundaries of expectations you set for yourself. Your beliefs become the fences that confine your potential. If you *believe* you have no control to affect positive change at work, you hide behind this fence and act accordingly.

Doubting your ability to manage your own happiness is likely the most confined success boundary you could ever construct. It is sad when others doubt you, but tragic when you doubt yourself.

Too many employees spend their entire careers waiting and wishing, punching days, and growing wearier with each unfulfilled day, waiting to be rescued. (Ironically, many employers play the same waiting game. Instead of working to improve their own leadership skillset, with fingers crossed, they anxiously wait for their employees to come through for them.)

Permit me to be clear in saying that you may not be responsible for managing the company you work for, but you *are* responsible for managing your *own* wellness. You don't have to be a passenger on your own life road-trip. Only when you begin managing your own actions and thoughts, do you take back the proverbial wheel.

Think about how great it must feel to be the manager of your own life. As the person in charge of your own happiness at work, you become personally responsible for your own *experience* of the world. You own the power to choose whether you have good days that create a great career or bad days that generate lousy careers.

Yes, happiness dwells within and is expressed through taking *full* responsibility for your current situation and outcomes! Now, pause for a moment and ask yourself if you see yourself as a leader. As you interact with coworkers and customers, do you see yourself as a *leader*?

This is a vital question worth some thought because if you don't *view* yourself as a leader, you won't *act* like a leader. If you see yourself as *just* an employee, you are at an extremely high risk for adopting learned helplessness and consequently, are likely to blame something or someone for the misery you experience at work. Sadly, you will believe



and accept that there is nothing you can do about it. Like an unused muscle, your best traits begin to atrophy.

All you are left with then, are excuses and a limiting belief that because you are just an employee, there is nothing you can do. Excuses then become the shifting sand upon which your attempts to build a house of happiness will quickly fail. It is a *victim mindset* that fall in love with excuses, not a self-leading mindset. Rather than take responsibility for their own happiness, self-proclaimed work victims search for an excuse and typically look to their boss, coworkers, or conditions to blame.

The interesting thing about excuses is that they may justify your misery, but they intensify your stress. Excuses justify your victim mindset and the resulting mediocrity, all the while blinding you to your positive potential. When the excuse billboard is on display within your mind's eye, you become blind to how *you* are responsible for your own actions and attitudes within your current role and in your current environment.

Learning to guide yourself through control over your behavior, responses, and thoughts will be your greatest asset in achieving the success and happiness you want at work. Seeing yourself as a leader, rather than a victim or *just* an employee, places you in an entirely different position and changes your complete perspective.

Of course, in using the term "leader," I am not referring to owning the corner office at work with the cushiest chair. Recall the definition from the first paragraph. Equating leadership with a position of authority is a limiting definition of leadership that locks you behind bars of job dissatisfaction.

Influence and authority are two separate concepts. Equating leadership with authority pushes you towards the limiting belief that you have little or no control over your own happiness and



wellness. Leadership is not about a title or position. It is about your impact, energy, and positive influence.

Without much effort, you can likely think of many employers and managers who obviously have authority, but are not leading. That is, people are not empowered, inspired, or positively influenced by them. Often, such peo-

ple with positions of authority are disillusioned, thinking that their staff is following *them*, but in fact they are merely following a pay cheque.

On the other hand, you can think of many employees who hold no formal position of authority, but they use their strengths in particular situations to inspire and influence those around them.

Whether you are a boss or not, there is no automatic ticket to happiness. Regardless of your position at work, you have equal access to happiness and can earn it through personal leadership.

How are you doing with this? Maybe it's time to slap yourself (not literally) and wake from your nap of self-doubt. You have an ability within you to choose how you respond to your working environment. When you shun this ability, you rely on and wait for luck or some other external circumstance to work in your favor. But when you exercise this ability, you gain back much control over your own destiny. Through your decisions and actions, you attract either happiness or despair. This is what it means to take back your life.

Leadership is a life responsibility on each one of us. It's about becoming the person we have the potential to become - people of great influence and value to our organizations.

Until you grasp the reality that your happiness at work is tightly wrapped in how you self-lead, you will spend your entire life believing that external factors have a firm grip on your happiness. You will waste incredible but futile energy searching in the wrong places. If you are like many, you will eventually conclude there is nothing you can do. You are just the employee.

By accepting this limiting belief as truth, you buy into a state of helplessness. Believing you have no power, influence, or choice, you then act accordingly, setting into motion a self-fulfilling prophecy that confirms the limiting belief that you really are just an employee!

You are more than just an employee. You are in a wonderful position to influence. Your work can provide a tremendous platform to optimally use your skillset as you impact both your patients and your staff. In return, you get to experience deep, fulfilling happiness that comes from making a difference and being significant.

Note From Registrar: Continuing Education

Members appear to have growing comfort with inputting continuing education into the "My Learning" page of the member portal. We have received several inquiries about making multiple entries at one time. In order to make multiple submissions, members must ADD all of the submissions prior to hitting submit. Once the submit button is hit the SDHA gains control of the form for approval. The approval process can take a couple of days but is typically handled very timely. Please keep this in mind when making future submissions.

We encourage members to review the [Continuing Competency Program Guidelines](#) to ensure the supporting documentation meets the requirements set out in this guideline and that the education obtained is categorized appropriately.

Other common issues are; time-stamping of online credit that do not reflect hour-per hour credit, missing critical information on supporting documentation, credit requests that have not been approved by the SDHA or bulk submissions from conferences.

Please reach out to us if you are looking for more guidance on this topic!

Shelby Hamm, RDH

Virtual Study Club Opportunity



Are you looking for SDHA approved virtual CE from the comfort of your own home? Sask RDH Connection guarantees 10 CE points per year for a cost of \$50. Presentations are recorded and available if you are unable to attend, although we alternate days of the week each month. We take your attendance at each presentation and submit it to the SDHA on your behalf! Email saskrdhconnection@gmail.com to join us!

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April 2022 Newsletter

[Read Now](#)

INSERT TRADE-IN PROGRAM



Trade-in any 6 inserts, **BUY 2 AND GET 1 FREE!**

Contact your local Dentsply Sirona representative, Kristy Charlton, for more information on this program.

Kristy Charlton
Dentsply Sirona - Saskatchewan
Kristy.Charlton@dentsplysirona.com
306-491-0355  [kristy.ds.sk](https://www.instagram.com/kristy.ds.sk)

SENIORS' ORAL HEALTH: WHAT CANADIANS ARE SAYING

Highlights of Abacus Data findings from a national survey of 2,200 Canadian residents from January 7 to 12, 2022.

Barriers to oral care identified as very serious/serious

79%



ability to pay

72%



lack of government-funded programs

64%



restricted mobility

88%



Want oral health included in national standards for long-term care (LTC)

47%



Say that oral health services in LTC are non-existent or minimal

86%

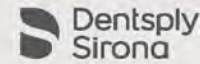


Support federal government funding for preventive and basic oral health services

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cdha.ca/oralhealthforseniors

Healthy Practices.
Healthy Smiles.



BIOFILM BEWARE!

Improving the removal and disruption of biofilm using your ultrasonic instruments.

by Dani Botbyl @dani.ultrasoniccoach



Dani Botbyl, RDH

Dani Botbyl is a registered dental hygienist and has served as the National Clinical Educator with Dentsply Sirona Canada for 22 years. She has developed and presented evidence-based educational programs to dental hygiene students, pre- and post-doctoral dental students, faculty and practicing clinicians nationally and internationally.

Dani has been a trailblazer for the advancement of ultrasonic instrumentation in dental hygiene practice and education in North America and abroad. She is credited with assembling and leading the first team of researchers to investigate the topic of ultrasonic instrumentation education, specifically conducting several studies on the integration of an enriched ultrasonic curriculum and its outcomes in dental hygiene programs. This culmination of her knowledge and research has produced multiple publications in industry and peer-reviewed journals. In 2018, with her co-authors, Dani was awarded the Canadian Journal of Dental Hygiene Research Award for Best Original Research Paper.

Over the last several decades, ultrasonic technology and the evidence for its use has evolved beyond the use of ultrasonics for just the removal of calculus. Today, ultrasonics provides greater utility subgingivally, including the use of thin, ultrathin, straight and curved ultrasonic instruments for removal and disruption of biofilm. In fact, when equal scaling strokes are applied, ultrasonic instruments (USIs) have shown to remove 50% more biofilm when compared to hand instrumentation¹. Randomized clinical trials have concluded that clinical outcomes using ultrasonic instrumentation are equal to hand scaling alone, and often achieve these outcomes more quickly^{2,3,4}.

Ultrasonic instrumentation can now be categorized into Traditional and Contemporary approaches (Table 1)⁵ and it's important for clinicians to consider how to maximize the modern benefits of ultrasonic technology when treatment planning periodontal debridement procedures.

Table 1: Comparison of Traditional and Contemporary ultrasonic approaches⁵

Traditional	Contemporary
Thick diameter inserts	Thin or ultra-thin diameter inserts; straight and curved designs
Subgingival access limited	Subgingival access is superior
Moderate to heavy calculus removal	Light calculus removal; focus on biofilm removal
Instrument contacts calculus	Instrument contacts cementum/dentin
Medium to high power settings typical	Low-medium power settings typical
Basic level of knowledge/skill and short 'time on task' to achieve competence	Higher level of knowledge/skill and a longer 'time on task' to achieve competence
Complete debridement requires the use of hand instruments	Complete debridement possible with ultrasonics
Client/patient comfort challenging	Client/patient comfort most usual

Igniting this more contemporary use of ultrasonics was Holbrook and Low in the 1990's when they examined thin, straight and curved ultrasonic inserts for the negotiation of deep periodontal pockets.⁶ Soon after, Dragoo further explored this concept using left and right curved designs and showed their superiority with better access to deep periodontal pockets.⁷ These thin curved inserts produced more effective calculus and plaque removal with the least amount of root surface damage when compared to hand instruments and traditional thick ultrasonic inserts.⁷ Drisko's benchmark review article on ultrasonic technology for non-surgical periodontal therapy further confirmed these findings⁸. The research has also looked more closely at ultrasonic tip movement and there is evidence showing how elements such as noise, water movement and bubbles have effects beyond mechanical removal of biofilm^{9,10}. Obviously this therapeutic jacuzzi cannot be created by hand instrumentation. The development of contemporary USIs, combined with research on cavitation makes ultrasonic technology a triple threat. A technology that can be used effectively and efficiently on calculus, stain and biofilm. However, many clinicians are not maximizing ultrasonic technology for biofilm. This past decade, research has reported that specifically thin and ultrathin straight USIs and thin curved USIs are underutilized and/or incorrectly used in clinical practice. Despite the benefits of curved USIs, a 2015 Canadian study suggests that approximately 85% of recent dental hygiene graduates do not use curved ultrasonic instruments post grad.⁵ Admittedly, curved designs are less intuitive compared to straight designs thus many clinicians report a lack of knowledge and confidence with their use. This article is intended to help clinicians improve the implementation of USIs beyond the removal of moderate to heavy deposit, with an emphasis on the use of ultrathin and left and right curved USIs, for enhancing the removal and disruption of biofilm.

QUESTION: Once the moderate to heavy hard deposit has been removed or a maintenance patient presents with no moderate to heavy calculus what is the best ultrasonic instrumentation strategy?

When treatment planning best USI options consider, in order, the following: (i) deposit type (ii) gingival condition (ii) root surface anatomy (Figure 1).

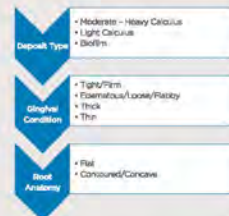
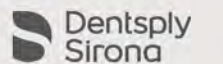


Figure 1: Considerations for Ultrasonic Instrument Selection

continued on next page...

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Evaluating the diameter, length, shape and cross section of a USI will help lead the clinician to think critically as they decided which USI is the best option for the debridement task at hand. As previously mentioned, USIs can remove on average 50% more biofilm than a hand instrument, therefore, a thin and/or ultrathin USI can be the first instrument choice when a patient presents with biofilm only or biofilm and light calculus.

Diameter

When moderate-heavy calculus is not present, standard or thick diameter instruments can leave the game. When the USI active tip is going to directly touch root surfaces (will not be touching moderate - heavy deposit), best diameter options become thin or ultrathin. Standard or thick diameter instruments should be considered when the USI active tip is going to directly contact moderate-heavy hard deposit. Thin instruments directly touching root surfaces have a greater potential of preserving more root structure.¹²

In the presence of light calculus and biofilm, a clinician is often faced with deciding between thin and ultrathin USI diameters. If an instrument with a thin diameter design can be used, use it! Save ultrathin USIs for situations where thin USIs are too thick such as: contact points, the CEJ or use in shallow pockets when instrumentation is indicated. (Figure 2).



Figure 2: An ultrathin USI in transverse orientation can access the CEJ and contact point (a). An ultrathin USI in vertical orientation can access a shallow pocket (b) or a deeper narrow pocket that cannot be accessed by a USI with a thin diameter.

The consistent use of an USI with an ultrathin diameter unnecessarily will result in quicker instrument wear. Although the removal of moderate-heavy calculus is not the focus of the article, it is worthwhile to mention that the consistent use of thin or ultrathin diameter USIs on this category of hard deposit is an inappropriate use of the technology yielding longer debridement times and quicker wear rates of the USI. The preservation of tooth structure and the preservation of the active tip of an ultrasonic instrument should both be an objective of modern-day periodontal therapy. A USI active tip that is worn beyond acceptable levels may lead to poor debridement efforts and patient sensitivity. The general rule concludes that a USI should be discarded or recycled once 50% of its original active tip has been worn. To ensure safe, effective, efficient performance of USIs, check your instruments routinely using the efficiency indicator cards provided by manufacturers (Figure 3).



Figure 3: An example of an ultrasonic instrument efficiency indicator card. Consult the manufacturer of the USIs used to secure the recommended card and become familiar with the parameters for regular measuring and replacement.

Length

Marrying the length of an USI with the depth of the pocket is likely as simple as it sounds. However, the orientation of the USI selected is a more complex concept. For improved subgingival access including biofilm removal and cavitation activity consider vertical orientation¹³ while transverse orientation is used primarily for supragingival debridement and to access contact points or deposit coronal to the CEJ.

Cross Section

Another USI characteristic that needs to be examined closely is the appearance of the active tip in cross section. USIs are typically designed as either circular/cylindrical or rectangular/square (Figure 4).



Figure 4: Ultrasonic Instrument Cross Section. Figure 4a round/cylindrical cross section absent of rounded corners. Figure 4b square/rectangular cross section with rounded corners.

The rounded corners are the areas where the two edges meet and these offer a more concentrated area of energy which should be considered when the demand to remove hard deposit beyond light levels exists. USIs with round cross sections have been shown to be preserve more root structure^{12,14} therefore, when the focus of debridement is on biofilm and/or light calculus and the USI active tip may be in contact with cementum or dentin, choosing USIs with a slim or ultrathin diameter and a round cross section has advantages. Clinicians should also observe patient experience it is very possible that this combination of USI characteristics also produces a more comfortable patient experience.

Shape

Lastly and perhaps one of the most important considerations of contemporary ultrasonic implementation is instrument shape (also referred to as tip geometry). An ultrasonic instrument may be straight or curved (semi spiral). When comparing the active tip area of straight and curved USIs, it is vital to distinguish the following: (i) a straight USI has a straight active tip (ii) a curved USI has an active tip with a curve or an arc. (Figure 5).



Figure 5: A comparison of ultrasonic instrument active tip areas. Note the convex surface of the curved instrument identified by the purple circle.

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When a debridement case does not present with moderate-heavy calculus (or any level of hard deposit) or when the moderate-heavy calculus removal phase has been completed and only light calculus and biofilm remain, a greater degree of contact is needed between the USI active tip and the tooth/root surface.¹⁴ Furthermore, it is in the best interest of the reduction or elimination of inflammation for the clinician to go beyond visualizing the active tip contacting the tooth/root surface. To maximize biofilm removal/disruption, the clinician needs to visualize and command the active tip to conform to the surface being instrumented.

When examined closely, the arc that is present on a curved USI is located on the back surface of the instrument and it should be noted that the lateral surface of a USI may not be the surface that best conforms to the anatomy of the site being debrided. In other words, the lateral surface of a curved or straight USI active tip may not have the same advantage as the back surface of a curved USI.

Currently, not all manufacturers of ultrasonic equipment recommend the use of the face, back and lateral surfaces of USIs. Historically, magnetostrictive technology (ie: Cavitron) has offered clinicians the option of using all surfaces while piezoelectric technology is more known for advising clinicians to specifically adapt the lateral surfaces to maximize it. Clinicians would be wise to check the 'directions for use' provided by the manufacturer of the equipment they are using.

Pictorial Curved Ultrasonic Instruments

Maximizing the benefits of any ultrasonic instrument is multifactorial. Instrument adaptation is certainly not the only key to success, but it is an important one. In the presence of biofilm or light calculus, it is important to not only contact the tooth/root with an instrument but to strive to select an instrument that will conform to the tooth/root as our objective is to removal/disrupt as much etiology as possible.

The best insert choice for Q1 posterior buccal is a left curved instrument. In *vertical* orientation, the point of the curved right instrument (Figure 6a) contacts the tooth surface. Continued subgingival penetration on the buccal surface of this tooth with this instrument would only lead to increased point-to-root contact. An overwhelming advantage of curved ultrasonic instruments is the ability of the back convex surface of the active tip to conform to any concave tooth/root surface. Therefore, when deciding between a curved right and left insert, choosing the instrument whereby the back can adapt to the tooth/root surface (Figure 6c) will improve access in many sites. In some areas, the back cannot physically be adapted, with these cases the lateral is the surface of choice (Figure 6b).

VERTICAL ORIENTATION: Selecting the 'CORRECT' Curved Insert



Figure 6a:
(Curved Right Insert)

Figure 6b:
(Curved Left Insert)

Figure 6c:
(Curved Left Insert)

Sequencing of a Curved Instrument



Figure 7a

Figure 7b



Figure 7c

Figure 7d

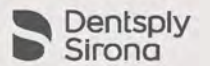


Figure 7e

Figure 7f

Subgingival access on buccal surface of mandibular left molar is best done with a curved left insert. Using *vertical* orientation, place the curved left instrument at the DB line angle (Figure 7a). Work distally as far into the distal subgingival space as needed based on the depth of pocket (Figure 7b). With a goal of reaching the halfway point across the interproximal space, maintain as much of an upright vertical position (vertical orientation) as possible. Compromising your *vertical* orientation will compromise access. Once debridement is complete in the subgingival distal space, work or position back towards the DB line angle, past this line angle now instrumenting the direct buccal surface (Figure 7c & 7d). At the MB line angle (Figure 7e), while maintaining vertical orientation, start to direct the ultrasonic instrument into the mesial subgingival space (Figure 7f). Note: ideal access of interproximal areas may require a *slight* oblique instrument position but this change from *vertical* orientation should not be used until well past line angles. Failure to do so, increases risk for poor access below the gingival margin interproximally.

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Accessing a FURCATION using a Curved Instrument



Figure 8a

Figure 8b

Figure 8c

The buccal furcation of the lower left mandibular molar is best done with a curved left instrument. Unless the technology being used restricts clinicians to using the lateral surfaces only, there is an advantage to leading or contacting the tooth/root with the convex back when possible. The convex back will **conform** to the anatomy of the tooth/root. Depending on classification of furcation, tooth position and patient-clinician position, many combinations of the back and lateral surfaces may be options. This series of images shows the active tip of the lateral surface (Figure 8a) adapted to the mesial surface of the distal root. During treatment, the clinician should keep the active 2-3 mm of the tip adapted and use a combination of suitable stroke types to debride from the most coronal aspect of the site to the base of the pocket. As the stroking moves more mesially, the back surface conforms to the dome of the furcation (8b). Once dome

has been fully accessed, shift to the distal surface of the mesial root adapting the lateral surface (8c) of the curved instrument and execute a light, sweeping, horizontal stroke to the base of the pocket.

Debridement strategies have advanced beyond using ultrasonics only for the removal of calculus and it is not enough to know our ultrasonic instruments by colour. Clinicians must possess a solid understanding of USI design characteristics and strive to achieve confidence with slim curved left/right ultrasonic instruments and ultrathin instruments if they want to maximize ultrasonic technology for the disruption and removal of subgingival biofilm, conservation of the tooth structure, resolution of inflammation and efficiency. The effects of long term, chronic inflammation stretch far beyond the oral cavity and our patients deserve the best in what technology has to offer.

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For further information and/or ultrasonic resources, please reach out to your
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