

Improving Oral Health with Home Irrigation



Disclosure Statement

- This course was designed, developed and produced by Waterpik Technologies
- Waterpik Technologies manufactures and distributes products addressed in this course

Course Objective

To provide the learner with a comprehensive review of the research on home irrigation, which will enable the health-care provider to educate and instruct individuals in the use of an oral irrigator

Learning Outcomes

- Identify the target of irrigation
- Compare depth of delivery between the jet tip and Pik Pocket® subgingival irrigation tip
- List the clinical parameters reduced by irrigation
- Discuss the effect irrigation has on the host response
- Evaluate solutions/agents for home irrigation
- Understand the benefits of irrigation for individuals with gingivitis, periodontitis, implants, diabetes, orthodontics, oral malodor
- Instruct individuals in the use of the oral irrigator
- Recommend home irrigation to appropriate individuals including when to implement the Pik Pocket® tip

Introduction

Dr. Gerald Moyer, a dentist, and John Mattingly, an engineer, introduced the first oral irrigator, called the Octopus, in 1962. Since that time, professional opinion on the benefits of using a home irrigation device have fluctuated but the research has always been consistently positive. Home irrigation has an extensive body of research¹ demonstrating its ability to reduce inflammation and bleeding, in most cases, above and beyond what can be achieved with normal brushing and flossing.^{2,3,4,5}

Mechanism of Action

Irrigation works through the direct application of a pulsed stream of water or other solution. Studies by Bhaskar et al and Selting et al have found pulsation and pressure to be critical components of an irrigation device. Pulsating devices have been shown to be three times as effective as

continuous stream syringe-type devices. Pulsation provides for a compression and decompression phase that allows for expedient clearing of bacteria from the pocket. A pulsating device also allows for control of the pressure rate. A medium to a high setting (50 psi - 90 psi) has been shown to be the most effective.^{6,7,8}

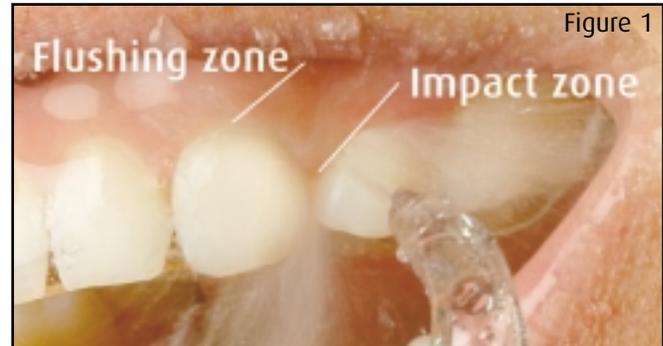


Figure 1

This pulsation creates two zones of hydrokinetic activity.⁹ See Figure 1.

- The impact zone – where the solution initially contacts in the mouth
- The flushing zone – the subgingival sulcus area where the solution reaches

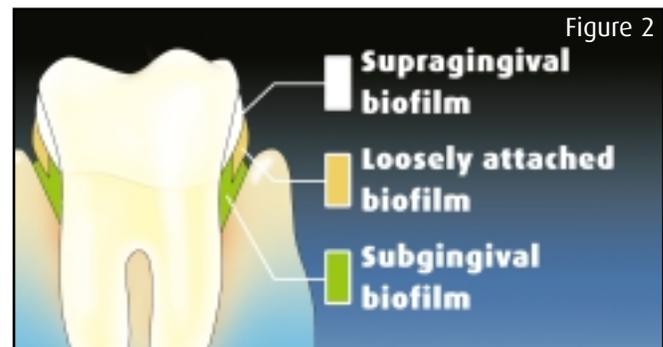


Figure 2

The outcome of hydrokinetic activity is subgingival penetration. Home irrigation always penetrates subgingivally regardless of the type of tip or attachment used.^{10,11} The lavage action produced causes both quantitative and qualitative changes in the microbial flora by diluting and disrupting the bacterial plaque (also called biofilm).⁹ Because all irrigation is subgingival,^{10,11} it is capable of accessing and targeting the loosely attached biofilm. See Figure 2. This is critical because the loosely attached biofilm contains:¹²

- A high concentration of endotoxins now called lipopolysaccharides - LPS
- A large number of white blood cells called polymorphonuclear leukocytes - PMNs
- A high percentage of gram negative bacteria - most pathogenic



Figure 3

There are two types of home or individual-applied irrigation: supragingival and subgingival.

- Supragingival irrigation is irrigation with a standard jet tip. The point of delivery is at or coronal to the gingival margin resulting in penetration of a solution into the subgingival sulcus to approximately 50%.¹⁰ It is accomplished by the tip on the left in Figure 3.
- Subgingival irrigation is the intentional, localized irrigation of a specific site such as a deep pocket, furcation, implant, or crown and bridge. The delivery device discussed in this program for this procedure is a soft, flexible rubber tip called the Pik Pocket® subgingival irrigation tip. It is located in the center of Figure 3. This subgingival tip has research documenting its depth of delivery. The Pik Pocket® tip can deliver a solution into the pocket up to 90% of its depth.¹¹
- On the right in Figure 3, you will see a cannula. Although use of a cannula is sometimes recommended, its safety and efficacy for home use has not been studied.
- It is important to remember that regardless of the tip placement, all irrigation penetrates subgingivally to control the subgingival microflora and byproducts of the immuno-inflammatory process.^{4,5,9,13,14,15,16,17}

Product Safety

There are numerous oral irrigators in today's marketplace, but the Waterpik® oral irrigator (also known as a dental system or oral cleaning system) has been extensively evaluated for product safety. The more than forty-five studies conducted in twenty-five university and independent research facilities provide a well-documented profile on the safety of the Waterpik® oral irrigator.

Soft Tissue

In a study designed to specifically look at safety for soft tissue, researchers examined untreated, chronic periodontal pockets immediately following oral irrigation with the Waterpik® oral irrigator. Examination of specimens under a scanning electron microscope showed no observable differences between the irrigated and non-irrigated specimens concerning epithelial topography, cavitations, microulcerations, spacial relationships and individual cell appearance.⁹ The investigators concluded that the Waterpik® oral irrigator is not injurious to soft tissue.⁹ This concurs with early work by Krajewski et al who found less inflammation, better connective tissue organization and an increased thickness in the keratin layer in individuals who irrigated twice daily compared to those who did not irrigate.¹⁸

"...regardless of the tip placement, all irrigation penetrates subgingivally to control the subgingival microflora and byproducts of the immuno-inflammatory process."

Oral Bacteria

Various researchers have looked at the issue of whether irrigation can cause deeper penetration of bacteria into the pocket. Both Manhold et al and O'Leary et al stained tissue with ink and evaluated for penetration of carbon particles.^{19,20} In each instance there was some penetration of carbon into the crevicular epithelium. However, each found mitigating circumstances to question the results. O'Leary et al found that penetration was not influenced by water pressure,¹⁹ and Manhold et al found that non-irrigated areas also had carbon penetration leading to speculation that the knife blade had drug in particles during the biopsy.²⁰ Other researchers have found that irrigation reduces the amount of bacteria in the gingival crevice.^{9,13,14,15,16,17} Specifically, Cobb et al found that bacteria was reduced up to 6 mm.⁹

Reduction in Clinical Parameters

Home irrigation has been scientifically proven to reduce numerous clinical parameters including ^{2,3,4,5,9,13,14,15,16,17,21,22,23,24,27,28}

- GI - gingival index
- BOP - bleeding on probing
- Periodontal pathogens
- Inflammatory mediators

Plaque (Biofilm) Removal

Many home irrigation studies have had perplexing findings when it comes to biofilm removal. Studies using daily water irrigation would show minimal or no reduction of biofilm, yet gingivitis and bleeding on probing would be significantly reduced. ^{2,3,14,17,22,23,24}

Plaque biofilm is generally measured by disclosing the teeth and using a standardized index that provides a mean score for evaluation. In most studies, the surface area covered by supragingival biofilm is measured. If a statistical change is found then it is generally concluded that the product is effective in removing biofilm. What has been shown in irrigation studies is an inconsistency in reducing the plaque (biofilm) index but not necessarily biofilm. If early studies had looked at the quality or composition of the biofilm and not just the quantity or surface area covered, different conclusions may have been reached.

In the past, when plaque (biofilm) was considered the focus of periodontal disease pathogenesis, it is easy to see how the usefulness of irrigation was dismissed. However, by today's standards, the real test of any home care device is its ability to reduce gingivitis and bleeding. Home irrigation sets the standard for all home care devices in this area.

Home irrigation reduces inflammation even when it has not reduced the plaque (biofilm) index. ^{2,3,14,17,22,23,24} For example, Chaves et al found that daily water irrigation showed a minimal decrease in biofilm, yet significantly improved inflammation even in sites with good biofilm control. From this, it was hypothesized that irrigation works by a mechanism independent of biofilm removal and may involve specific host-microbial alterations in the subgingival environment.¹⁴

Gingivitis and Bleeding

Several studies have shown that home irrigation is extremely effective in reducing gingivitis and bleeding on probing. ^{2,3,4,5,14,15,16,17,21,22,23,24,27,28} In many cases, these outcomes were achieved above and beyond routine brushing and flossing. This means that individuals may benefit from home irrigation even if they are already brushing and flossing. ^{2,3,4,5}

In a study of 155 subjects in periodontal maintenance, Newman et al found that individuals who added daily water irrigation to routine brushing and flossing were able to reduce gingivitis and bleeding better than those subjects who only brushed and flossed.² In concurrence, Flemmig and co-workers found that individuals in periodontal maintenance who used daily water irrigation had 50% better reductions in bleeding than those who practiced routine oral hygiene alone.³

"...individuals who added daily water irrigation to routine brushing and flossing were able to reduce gingivitis and bleeding better than those subjects who only brushed and flossed."

Pathogenic Bacteria

Home irrigation has been shown to reduce pathogenic subgingival bacteria^{9,13,14,15,16,17} up to 6 mm as evidenced by Cobb and co-workers.⁹ As documented by Chaves et al, home irrigation reduced subgingival pathogens regardless of the solution used. Rinsing with chlorhexidine did not achieve the same results. This is likely because rinsing provides very little subgingival penetration compared to home irrigation.¹⁴

The Pik Pocket® tip also has been shown effective at reducing subgingival pathogens as evidenced in studies by Fine et al and Jolkovsky et al.^{15,16} While an antimicrobial agent has been used in studies with the Pik Pocket® tip, water may also be effective. This tip is a good choice for individuals who have areas that are challenging to manage

periodontally or have areas difficult to access such as a deep pocket, furcation, implant, or crown and bridge. In addition to decreasing pathogens, using the Pik Pocket® tip can reduce inflammation and probing depth.^{15,16}

Immune Response

After years of speculation by researchers such as Chaves and others regarding the effect of irrigation on the immune system, a study was undertaken at Baylor University to determine how home irrigation impacts the host response.

For the study, Cutler and co-workers chose to look at traditional periodontal outcomes plus measures of cytokines also called inflammatory mediators. Cytokines were chosen because some, such as IL-1 β , have been implicated in stimulating osteoclasts to destroy alveolar bone.^{25,26} They found that home irrigation reduced the cytokine, IL-1 β , thus potentially inhibiting periodontal disease activity.⁴

Some of the interesting findings in this study include:⁴

- Even though both routine oral hygiene and routine oral hygiene plus water irrigation reduced biofilm, only the group that added home irrigation could reduce IL-1 β
- The reduction of bleeding on probing did not correlate with the biofilm reduction but rather the reduction of IL-1 β

It is important to note that these measures were taken 8 hours after irrigation so that the dilution effect would be eliminated.

There are several critical outcomes from this study.⁴ First, it demonstrates that a decrease in bleeding requires more than biofilm reduction. It also provides an understanding of why irrigation has been effective at reducing bleeding in spite of minimal biofilm removal as measured by standard indices. Finally, it imparts strong evidence that individuals with periodontal disease need irrigation even when they are already brushing and flossing.

Individuals with Special Needs

Home irrigation has been studied on individuals with special needs such as those with diabetes, implants, and orthodontic appliances.^{5,27,28}

Diabetes

A recent study by Al-Mubarek and co-workers looked at the effect of home irrigation on individuals with diabetes. They found that in addition to reducing the traditional clinical parameters of biofilm, gingivitis, and bleeding on probing, twice daily water irrigation with the Pik Pocket® tip significantly reduced the expression of destructive inflammatory mediators, IL-1 β and PGE₂, better than routine oral hygiene.⁵ The researchers concluded that the inclusion of subgingival water irrigation as an adjunctive therapy might have a cumulative positive influence in regaining periodontal tissue health within diabetic subjects when compared to the controls.⁵

Implants

Another study found that the Pik Pocket® tip was both safe and effective for controlling bleeding and inflammation around implants. When irrigation with 0.06% (half-strength) CHX was compared to rinsing with 0.12% (full strength) CHX significant clinical reductions strongly in favor of irrigation were observed.²⁷



Figure 4 demonstrates the gentle placement of the Pik Pocket® tip around an implant. Although some have suggested it, the jet tip has not been evaluated for safety with an implant.

Orthodontic Appliances

Orthodontic appliances present cleaning challenges. Researchers found that regardless of whether a manual or automatic toothbrush was used, adding home irrigation

significantly reduced bleeding and inflammation better than when the individual only brushed with a manual toothbrush.²⁸

Oral Malodor

Oral malodor is a common and sometimes embarrassing problem. In individuals with periodontal disease, it has been primarily associated with tongue coating and gingival inflammation.²⁹ The new Waterpik® breath freshening tongue cleaner attaches to the Waterpik® oral irrigator. It incorporates a small spoon shaped design along with water pulsation for easy reach and optimal flushing of odor-causing bacteria. Combined with a regimen of full-mouth daily irrigation, the Waterpik® oral irrigator can help reduce the two major contributors to oral malodor - bleeding on probing and a coated tongue.²⁹

Irrigation Solutions

People often look to their dental professional to recommend a solution or medicament for their oral irrigator. As noted by Dr. Connie Drisko, Dean of the Medical College of Georgia in Augusta:

“Several studies have shown that water or other medicaments provide an increased reduction of gingivitis and BOP over normal oral hygiene alone in maintenance patients.”¹

Many solutions can be used in an oral irrigator. A solution that is acceptable to the person should be recommended, otherwise, compliance may be compromised. It is important to remind people that when using a solution other than water, the unit must be flushed by filling the reservoir half full with water, removing the tip, and activating the system. If not, the life of the unit could be shortened.

Three different types of agents have research to support their use. They are:

- Water
- Chlorhexidine
- Essential Oils

Water is a very effective agent.

Some of the benefits of using water are:

- A true “natural” product
- No side effects
- Cost effective
- Readily available
- There are numerous clinical trials to support its use.^{2,3,4,5,9,14,15,23,24,28}

Chlorhexidine has frequently been evaluated in home irrigation studies.^{13,14,15,21,22,24,27} Because of better interproximal and subgingival penetration when compared to rinsing, diluting CHX is acceptable for irrigation.

Dilutions (based on a 0.12% concentration) that have been shown to be effective via randomized clinical trials are:³⁰

- 0.02% = 5 parts water + 1 part CHX
- 0.04% = 2 parts water + 1 part CHX
- 0.06% = 1 part water + 1 part CHX

Essential oils have also been studied as irrigants. The most common brand of essential oils is Listerine® antiseptic. However, there are several hundred generic brands. It is important to note that the effectiveness of Listerine® antiseptic is based on studies using it at full strength only.^{16,17}

Instructions for Using the Waterpik® Oral Irrigator

When giving instructions for the use of the oral irrigator, there are some general suggestions that can make learning how to use the irrigator an easy and quick process.

- For practical purposes, the unit should not be turned on until the tip is in the mouth
- Bend from the waist over the sink and hold arm up perpendicular to torso
- Lips should be slightly closed to avoid splashing, but open enough to allow the water to flow freely from the mouth into the sink
- Before removing the tip from the mouth, pause the flow of water or turn the unit off
- For comfort, recommend that any solution used is at room temperature
- Advise individuals to begin at the lowest pressure setting when using the irrigator for the first time

Because there are different types of units available, be sure to review the manufacturer’s complete instruction

guide PRIOR to recommending or demonstrating the product. Recommending and instructing is easier if you have read all instructions and tried the product yourself.

Attachments

Three different types of tips will fit several Waterpik® oral irrigator models; the jet tip, the Pik Pocket® subgingival irrigation tip, and the breath freshening tongue cleaner.

The jet tip is recommended for general, full-mouth irrigation. See Figure 5. When using the jet tip:



- Recommend beginning in the molar area and follow a pattern throughout the mouth. This helps avoid missing areas.
- Place the tip between the teeth at a right (90 degree) angle to the long axis of the tooth at the interproximal space.
- After the unit has been turned on and water has begun pulsating, hold the tip in place at the interproximal area for five to six seconds. This allows adequate penetration of the solution into the gingival crevice or pocket.
- Move the tip around the mouth in a linear fashion following the gingival margin remembering to hold the tip in place for five to six seconds at each interproximal area. Make sure that all areas are irrigated from both the buccal and lingual.

The Pik Pocket® subgingival irrigation tip has been designed for low-pressure delivery. It is latex-free. Since this tip is site specific, individuals will need to know exactly where in the mouth it should be used. It is recommended to have extra tips available to demonstrate the placement to the individual. It will also help with compliance.



To use the Pik Pocket® tip:

- Gently place the tip just slightly below the gingiva - as seen in Figure 6.
- Recommend using a mirror to check that the tip is in the correct place.
- Slide the pressure control to lowest setting. The Pik Pocket® tip is designed for low-pressure delivery. Even if the unit is not turned to low, the solution will still be delivered at a low pressure. However, there is less wear on the unit if the pressure is turned down.
- Hold the tip in place for five to six seconds before proceeding to another area.

Most Waterpik® oral irrigators come with the new breath freshening tongue cleaner. See Figure 7. A daily routine that includes irrigating teeth, gingiva, and tongue can contribute to optimal oral health.

To use the tongue cleaner:

- Slide the pressure gauge to the lowest setting. This will minimize the amount of water in the mouth and help prevent gagging.
- Place the tongue cleaner in the middle of the tongue, as far back as comfortable. As the tongue cleaner is used more frequently, it can be placed farther back on the tongue. This is important because the posterior of the tongue is where the odor-causing bacteria reside.
- Using light pressure, pull the tongue cleaner forward over the tongue.
- Repeat as needed until the entire tongue is cleaned.



Oral Irrigation Units

There are several models of Waterpik® oral irrigators. Most systems have certain features in common:

- 1,200 pulsations per minute
- A variable pressure range for optimum therapeutic effect
- Soft-touch handle controls
- The ability to accommodate antimicrobial agents
- 1000 milliliter reservoir
- Ounce and milliliter markings on the reservoir for easy measuring

Waterpik® oral irrigators are preferred by dental professionals 10:1 over other brands. From the personal to the portable model there are a wide array of choices suitable for every need. Chart 1 (located on page 9) details how the Waterpik® oral irrigator compares to other products.



Figure 8



Figure 9



Figure 10



Figure 11

Figure 8 shows the Waterpik® personal oral irrigator, model WP-60W. It is designed for the single user. It comes with one jet tip and one tongue cleaner. The Pik Pocket® tip will fit on the unit.

Figure 9 shows another model of the Waterpik® personal oral irrigator, model WP-65W. It is like the WP-60W except it has a blue reservoir. It can be found at department or specialty stores.

Figure 10 shows the Waterpik® family oral irrigator, model WP-70W. It is designed for multiple users. It comes with two jet tips and two tongue cleaners and will accommodate the Pik Pocket® tip. It has a frosted reservoir.

The Waterpik® professional oral irrigator, model WP-72W is shown in Figure 11. It is designed with the periodontal patient in mind. It comes with two jet tips, one tongue cleaner and one Pik Pocket® tip. Two frosted reservoirs are included: the standard 1000-milliliter and smaller 300-milliliter.

The Waterpik® cordless oral irrigator, model WP-360W is highlighted in Figure 12. It is perfect for people who want the flexibility of irrigating anywhere, including the shower. It is lightweight and easy to use. Great for travel, small bathroom counters, or where ever space is an issue. Easy to store when not in use. It comes with two low-pressure tips and two high-pressure tips for customized irrigating. The rechargeable battery will stay charged for approximately one week.



Figure 12

Waterpik® Traveler, model WP-350W is highlighted in Figure 13. This is the original model designed for the business traveler or frequent flier. It comes with two jet tips for variable pressure control, a travel case, and multi-voltage rechargeable battery that will convert to international voltage.



Figure 13

When you recommend products, it is beneficial to know where they can be purchased along with the estimated cost. Having this information will enhance credibility and increase compliance with your recommendation. Alternatively, products can be purchased at professional discounts for dispensing or selling in the office.

Conclusion

Home irrigation is an important addition to brushing and flossing for all. The body of evidence supporting its use is long-standing and well-documented.¹ Oral irrigators are affordable and when used daily with water are long-term, cost-effective tools for ensuring optimal oral health.

According to Trisha O’Hehir, RDH, BS, international speaker, author, and publisher:³¹

“If you are not recommending oral irrigation to patients, or using it yourself, it’s time to start. Oral irrigation was occasionally suggested as an alternative for those who didn’t floss, but now it should be considered a regular part of oral hygiene for everyone.”

Product Disclaimer

All home irrigation studies referenced in this course have been done using the Waterpik® oral irrigator by Waterpik Technologies. While other brands of home irrigators are available, products are not equivalent when it comes to pressure and pulsations. Therefore, expectations of similar clinical outcomes on products of different brands cannot be assumed.

Product Comparison: Oral Irrigators*						
	Waterpik® Oral Irrigators	Hydro Floss®	Interplak® Dental Water Jet	Oxycare™ 3000 Hydromagnetic Oral Irrigator	Via-Jet PRO	Braun Oral B® Oxy-Jet™
Parent company	Waterpik Technologies	Hydro Floss, Inc.	Conair® Corporation	Oxyfresh Worldwide, Inc.	Ora-Tec	Oral-B Laboratories
Pressure range	20-90 psi	5-60 psi	psi not available	psi not available	psi not available	psi not available
Direct professional pricing	Yes	Yes	Yes	Yes	Yes	Yes
Published Clinical Research	45 studies	2 studies	None	None	2 studies	1 study
Clinically proven to reduce:**						
• Calculus	• Yes	• No	• No	• No	• No	• No
• Plaque	• Yes	• No	• No	• No	• No	• No
• Gingivitis	• Yes	• No	• No	• No	• No	• No
• Bleeding on probing	• Yes	• No	• No	• No	• No	• No
• Pocket depth	• Yes	• No	• No	• No	• No	• No
• Bacteria	• Yes	• No	• No	• No	• No	• No
• Inflammatory mediators	• Yes	• No	• No	• No	• No	• No
Clinically proven safe and effective in patients with:**						
• Gingivitis	• Yes	• No	• No	• No	• No	• No
• Periodontitis	• Yes	• No	• No	• No	• No	• No
• Implants	• Yes	• No	• No	• No	• No	• No
• Orthodontics	• Yes	• No	• No	• No	• No	• No
• Crown & bridge	• Yes	• No	• No	• No	• No	• No
• Diabetes	• Yes	• No	• No	• No	• No	• No
• Intermaxillary fixation	• Yes	• No	• No	• No	• No	• No

* Information as of April 2003

** Results are based on studies that compared oral irrigation and routine oral hygiene to routine oral hygiene alone with superior results for oral irrigation plus routine oral hygiene. Routine oral hygiene is defined as manual brushing, flossing, and rinsing.

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Post Test for Course #01-03 Improving Oral Health with Home Irrigation

- 1. Pulsation is more effective than a steady stream for displacing debris and bacteria.**
A) True B) False
- 2. Pulsation creates two zones of hydrokinetic activity. These zones are called:**
A) Coronal zone and the flushing zone
B) Coronal zone and the sulcular zone
C) Impact zone and the sulcular zone
D) Impact zone and the flushing zone
- 3. Which individuals with special needs have been shown to benefit from irrigation?**
A) People with implants
B) People with orthodontic appliances
C) People with diabetes
D) All of the above
- 4. Average depth of delivery into the sulcus using the standard jet tip is:**
A) 10% B) 50%
C) 64% D) 87%
- 5. Chlorhexidine (CHX) is effective in an oral irrigator at what dilution (based on 0.12% concentration)?**
A) 0.02% CHX B) 0.04% CHX
C) 0.06% CHX D) All of the above
- 6. Which agents have scientific evidence to show they are effective when used with an oral irrigator?**
A) Chlorhexidine B) Essential Oil
C) Water D) All of the above
- 7. Oral irrigation has been shown to reduce pathogenic bacteria up to:**
A) 2 mm
B) 4 mm
C) 6 mm
D) 8 mm
- 8. Which statement is true?**
A) Irrigation can reduce inflammation without reducing the plaque biofilm index
B) Irrigation can reduce inflammation only by reducing the plaque biofilm index
C) Irrigation can reduce the plaque biofilm index but not inflammation
D) Irrigation cannot reduce the plaque biofilm index or inflammation
- 9. Daily irrigation with water has been shown to:**
A) Reduce bleeding and gingivitis
B) Reduce probing depth
C) Reduce periodontal pathogens
D) All of the above
- 10. The site specific Pik Pocket® subgingival irrigation tip is recommended for:**
A) Furcations
B) Implants
C) Difficult to access areas
D) All of the above



Obtaining Continuing Education Credits —

Waterpik Technologies is designated as an Approved PACE Program Provider by the Academy of General Dentistry. The formal continuing education programs of this provider are accepted by the AGD for Fellowship, Mastership, and membership maintenance credits. Approval does not imply acceptance by a state or provincial regulatory board. The current term of approval extends from 04-05-1998-05-31-2006.

Credits: 2 Hours _____

If you have questions about CE requirements in your state or province, please consult your regulatory board.

Directions _____

- Fill out the Waterpik CE Registration Form and Answer Sheet.
- Answers should be logged on the answer sheet. Please make a copy of the post test and your answer sheet to retain for your records.
- Only one original answer sheet per individual will be accepted. PHOTOCOPIES ARE NOT VALID.
- Answers left blank will be graded as incorrect.
- Please fill out the course evaluation portion.
- Submit your answer sheet via mail to:

Carol Jahn, RDH, MS
Educational Programs Manager
Waterpik Technologies
1730 East Prospect Road
Fort Collins, CO 80553

Scoring _____

In order to receive credit, you must answer correctly 7 questions out of 10.

Results _____

Will be mailed in 6 to 8 weeks

Questions _____

Please contact Carol Jahn, Education Programs Manager, at 1.800.525.2020 x 8565 or via email at cjahn@waterpik.com.

CE Registration Form and Answer Sheet

Course #01-03: Improving Oral Health with Home Irrigation

Name: _____
 Credentials: _____
 Street Address: _____
 City: _____
 State: _____ Zip: _____
 Daytime Phone: _____
 Email: _____

Answer Sheet - Please circle the correct answer for each question.

- | | | | | |
|-----|---|---|---|---|
| 1. | a | b | c | d |
| 2. | a | b | c | d |
| 3. | a | b | c | d |
| 4. | a | b | c | d |
| 5. | a | b | c | d |
| 6. | a | b | c | d |
| 7. | a | b | c | d |
| 8. | a | b | c | d |
| 9. | a | b | c | d |
| 10. | a | b | c | d |

**Course Evaluation – Circle your response:
1 = lowest, 5 = highest**

Course objectives were met

1 2 3 4 5

Content was useful

1 2 3 4 5

Questions were relevant

1 2 3 4 5

Rate the course overall

1 2 3 4 5