

# SMS

## self-study course

course 1 | march 2023



TWO CREDIT HOURS  
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## LET'S TALK DENTAL IMAGING...

Patient Education & Management Challenges

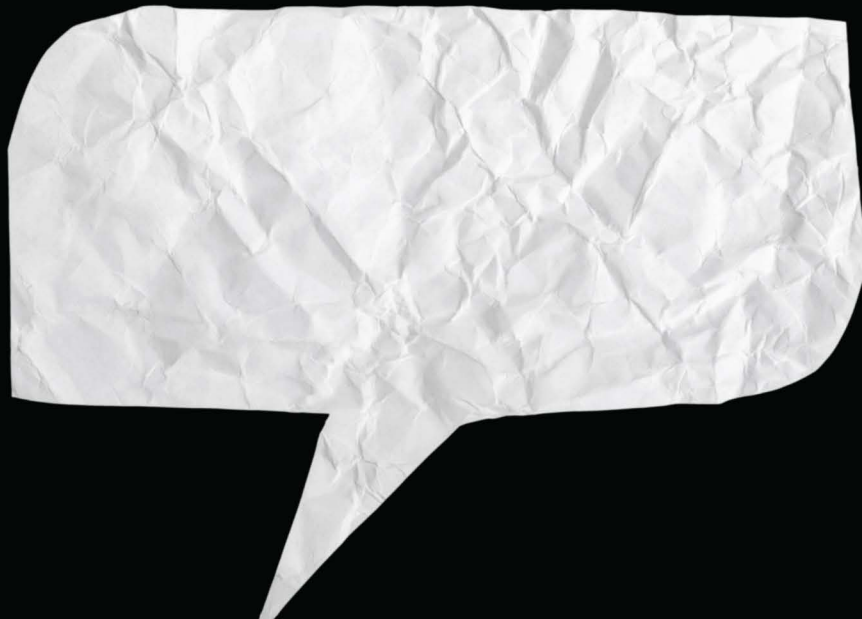
### *about this course...*

The purpose of this self-study is to provide the dental professional with a review of necessary information regarding **dental imaging**. This course will provide a brief overview on how to enhance patient cooperation, through trust, communication, and good interpersonal skills. The implementation of simple education and management techniques can help the dental radiographer avoid many potential difficulties when taking dental images. Technical skills alone are not sufficient for providing quality patient care.

Similar to previous SMS self-study courses, this self - study is designed around the idea that there is always something to be learned! The following content is designed to provide both recent graduates and experienced clinicians with evidence - based information that can be used during patient care. Specifically, this course is designed to aid the clinician in making appropriate decisions related to patient management and dental imaging.

# course 01

march 2023



## LET'S TALK DENTAL IMAGING...

Patient Education & Management Challenges

## COURSE *learning objectives*

Upon completion of this course, the participant will be able to:

- define key terms associated with patient relations
- identify aspects of communication skills
- recognize the importance of facilitation skills
- identify the importance of educating patients on dental imaging
- recognize available resources from the American Dental Association related to dental x-rays and exposure guidelines
- recognize the recommendations and benefits of dental images
- identify safe practices regarding the exposure of dental x-rays
- recognize the importance of patient management techniques
- differentiate between various patient management techniques
- describe management techniques of pediatric patients
- describe management techniques of patients with a disability
- identify 'helpful hints' related to managing a patient with a gag reflex

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# PATIENT RELATIONS

## *key terms*

### what are **INTERPERSONAL SKILLS?**

Patient relations should be an integral part of the dental experience. The dental provider should be cognizant of their role in regard to patient management. Interpersonal skills are defined as skills that promote good relationships between individuals. These skills should be used in conjunction with technical skills to ensure patient trust and confidence.

### what are **COMMUNICATION SKILLS?**

Communication is defined as the process by which information is shared between two or more individuals. Communication skills are multi-layered skills involving verbal skills, non-verbal skills, and listening skills. Verbal skills should involve communication through speech. The dental provider should use careful language when speaking with patients to ensure professionalism. Non-verbal skills may involve the use of body language such as posture, body movement, eye contact, and facial expressions. Listening skills involve receiving and understanding information being presented. Using each of these skills in conjunction with one another can promote a positive provider-patient relationship.

### what are **FACILITATION SKILLS?**

Facilitation is defined as the act of making something easier. Facilitation skills are interpersonal skills that make the patient-provider relationship easier through trust and communication. A simple approach to using facilitation skills may involve encouraging patient questions, thoroughly answering patient questions, communicating effectively and kindly, and supporting patient needs/requests.





# PART ONE

patient education





# PATIENT EDUCATION

## *introduction*

Patient education concerning dental imaging is one of the simplest approaches toward ensuring quality patient care and understanding. Take a moment to reflect on a time prior to your dental education when your understanding of dental imaging was limited or non-existent. Remember when terms like radiography, bitewing image, or bisecting were unfamiliar? Compare this to your current knowledge and understanding --- it is likely that this acquired knowledge has allowed you to be able to educate patients, expose dental images, and manage patient needs. In considering this, it is worth noting that many patients have a limited understanding regarding these topics.

Similarly, many patients do not understand the value of dental images, regardless of how many times they have been to a dental appointment. Some patients fear the use of x-rays while others think that every dental image taken provides the same available information and findings. Some may believe it is a way for the dental practices to charge additional fees. With such misinformation, the dental professional should take steps toward educating the patient on why dental images are valuable, how they are used as a resource for care, and how dental images benefit the patient, both in short term and long-term ways.

This self-study course discusses effective patient education guidelines and patient management guidelines related to dental imaging. Effective patient education related to dental imaging can decrease fears of x-ray exposure, increase cooperation, and increase motivation for regular dental visits. Effective patient management techniques related to dental imaging can also enhance patient cooperation when working with a pediatric patient, a patient with a disability, and, a patient with a gag reflex.



## EDUCATION IS *powerful*

As patients are educated about dental images, their confidence in the dental team grows and potentially difficult situations are more easily managed. Education enhances understanding and provides the patient with opportunity to ask questions. A patient who is knowledgeable about the importance of dental images is more likely to realize the benefits of prescribed images, and accept recommended treatment.

## EDUCATION IS *conversational*

The dental professional can use an informal conversation to present dental imaging and related information. As advancements in technology have influenced the overall dental appointment, there are various resources that can be used to 'set the scene' and/or present important findings related to dental imaging.

In considering the modern structure of dental appointments, lack of available time may be a valid concern related to educating patients. However, to provide quality care that is consistent and efficient, the use of a prepared oral presentation with example images, printed literature, videos, or any combination of these methods can help to avoid any hindrances to the overall flow.

Currently, the American Dental Association provides printed literature brochures, including one on dental imaging. This resource ([found here](#)) is a wonderful option for promoting patient education!



# PATIENT *questions*

Many patients have heard or read about dental imaging, specifically the consequences of x-ray radiation, and often are overly concerned due to misleading or inaccurate information that they read or hear. As social media platforms provide opportunity for the sharing of information, it should be noted that some patients may rely solely on these resources, believing any and all information, regardless of its validity. The dental professional must be prepared to navigate these discussions through the use of evidence-based information.

No matter how well information is communicated, there are still many patients who have additional questions. These questions must be answered effectively to gain confidence in the dental team. The dental professional must be prepared to explain exactly why the dental images are important, how dental images are used, and how they benefit the patient.

Although all dental professionals can answer frequently asked questions about the need for dental images, the safety of dental x-rays and x-ray exposure, it is important to note that only the dentist can answer any dental image diagnosis questions.

**Re-thinking the way in which we present our answers to patients can help to promote consistency in our care.**





# NECESSITY

## *questions*

*The following is a list of common questions that patients may have, and suggestions on how to respond.*

*As you read through each of these, you may be thinking, "I already know what to say!" but a quick review may be just what is needed to refine these discussions!*

### "are dental images really necessary?"

"Yes. Dental images are necessary to detect concerns that may not be visible or detected through other methods. Dental images provide details that help the dentist to diagnose disease and conditions such as tooth decay, bone disease, and infections, among various other oral findings.

These diseases may go unnoticed for a long time, with no obvious signs or symptoms. Over time, these conditions progress and cause tooth destruction, bone damage and pain, all of which may require more extensive treatment.

Dental images are always prescribed to benefit the patient and support early detection, helping to minimize and prevent problems that could cause pain in the future. Do you have any concerns about dental x-rays?"

### "how often do I need dental images?"

"The imaging needs of each individual are different because each patient's dental condition is different. The dentist must determine how often your images need updated in order to treat your condition properly. Guidelines (found [here](#)) published by the American Dental Association is used to aid in prescribing the number, type, and frequency of dental images."

*It is worth noting that many offices base the frequency of dental images on insurance coverage. Although this is common practice, the ADA in collaboration with the FDA, recommend the aforementioned guidelines to serve as an adjunct to the dentist's professional judgment of how to best use diagnostic imaging.*



# NECESSITY

## *questions*

### "how often do children need dental images?"

"The frequency of imaging examinations should be based on the child's individual needs. For example, a child with a history of tooth decay most likely needs frequent dental imaging compared to a child without a history of tooth decay. The American Dental Association supports specific guidelines designed by [Image Gently](#) to promote the proper prescription of dental images by the dentist, for children."

### "can I refuse dental images and still be treated?"

"The dentist cannot adequately treat you without the proper tools to diagnose your condition, including dental images. If a patient refuses dental images, the dentist must decide if an accurate diagnosis can be made without them. In most cases, the accuracy of the diagnosis is compromised without dental images and therefore the dentist cannot treat the patient appropriately.

Treatment cannot be provided without a diagnosis. The standard of care requires that a dentist decline to treat a patient who refuses necessary dental images, to avoid consenting to negligent care."

### "can you use dental images from my previous dentist instead of taking new ones?"

"Yes, we can accept dental images from your previous provider as long as they are of diagnostic quality and within our recommended time frame, based on your needs. If the images provided are not of diagnostic quality (even recent images), we may require additional images to ensure that you are properly treated. If the images provided are not recent, additional images will be required."





# SAFETY & EXPOSURE

## *questions*

### "is dental x-ray exposure safe?"

"The amount of x-radiation that occurs during exposure is very small and the benefit of disease detection significantly outweighs the minimal risks associated.

It should be noted that the term safe is defined as free from harm or risk. However, no amount of radiation is considered safe and therefore, x-rays cannot be harmful and safe at the same time.

As such, precautions have been implemented to ensure that the doses received by patients and personnel are kept well below the allowable limits, and necessary exposures are kept as low as reasonably achievable."

### "why do you use this heavy apron?"

"A lead apron with a thyroid collar is used to protect areas of the body that contain radiosensitive organs including reproductive, blood forming, and thyroid tissues, from scatter radiation. These aprons act as a shield to protect you from any unnecessary exposure. Other precautions include a lead collimator to help direct the radiation to a specific area in your mouth, and also reduce scatter."

### "why do you leave the room when x-rays are exposed?"

"An individual should only be exposed to x-radiation when the benefit of disease detection outweighs the risk of exposure. I step out of the room to limit my exposure when dental images are taken since I do not benefit from them. One of the most effective ways to limit x-ray exposure is to maintain adequate distance and shielding, which is why I step out of the room during x-ray exposure."



# SAFETY & EXPOSURE

## *questions*

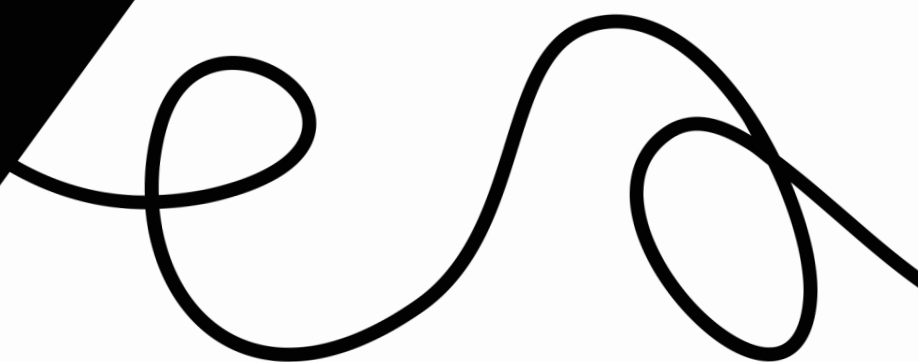
### "can dental x-rays be used during pregnancy?"

"Yes. Research supports that dental x-rays may be used during pregnancy when the right precautions are taken. The use of a lead apron ensures that regions with reproductive organs are safely protected. The embryo and fetus are safely protected resulting in no detectable exposure occurring. The American Dental Association supports findings of The American College of Obstetricians and Gynecologists Committee on Health Care for Underserved Women, stating in their recommendations that the recommended guidelines do not need to be altered because of pregnancy. In some cases, the dentist may elect to postpone exposure if there are patient concerns. Some may even consult with the patient's obstetrician for approval."

### "are digital x-rays safer than normal x-rays?"

"Digital x-rays use radiation just like normal x-rays, although patients are exposed to less of it with digital x-rays. Digital imaging allows for less radiation exposure than film - based imaging, and this exposure time may be reduced by 50% to 90%."





# PART TWO

patient management



# PATIENT MANAGEMENT

## *introduction*

Patient management is an important aspect of patient care, especially in relation to dental imaging. The use of proper patient management techniques can help the dental professional avoid many potential difficulties when obtaining dental images. Demonstrating confidence in the ability to perform the dental imaging procedures goes a long way in helping a fearful patient relax. Practice of both VERBAL and NONVERBAL skills serves to gain trust from patients. In addition, facilitation skills are necessary to ensure that patient trust and proper communication is achieved.

Not all dental imaging techniques can be successfully performed on all patients. However, the implementation of intentional patient accommodations can allow for successful patient management. Imaging examination techniques may require modifications to accommodate patients with special needs. Some special patient situations may include pediatric patients, patients with physical or developmental disabilities, and patients with a hypersensitive gag reflex.

Patient management skills can only be improved when consciously applying the principles of effective communication and employing proper techniques. By continually reviewing these principles and techniques, each member of the dental team can improve the patient's perception of the dental care they receive and enrich their dental experience. The following information will present a guide toward achieving such improvement.



## WORDS ARE *powerful*

The dental professional should choose words that inform the patient but do not distract from the procedure. It is critical to avoid statements that indicate incompetence or insecurity. For example, comments such as “Oops!” or, “I think this might work!” are statements that indicate a lack of control and should not be used.

Using extremely technical words or dental jargon is also inappropriate. When speaking to a patient, “10 PA’s” does not communicate as much as “10 pictures of different areas of the mouth that show the teeth, roots and bone levels.” Explaining why the procedure is needed, rather than only what is needed, goes a long way to increase patient acceptance.

## ACTIONS ARE *powerful*

Nonverbal clues and behavior enhance communication. A smile, a nod of the head, and correct posture all communicate to the patient that a professional is confident and capable, which is then transferred to trust in the operator. Positioning the body in front of the patient so that one is able to see facial expressions and make eye contact is more effective than speaking to a patient while standing behind them. Posture has an added dynamic; a posture that is forward and down communicates an attitude of being grounded, decisive, and powerful. Leaning downward and forward dramatizes to the child the importance of a request.



# MANAGEMENT OF A *pediatric patient*

The dental professional must be prepared to modify imaging techniques to accommodate the child patient. Management of a child patient requires that the dental professional be confident, patient and understanding. Use the **helpful hints** listed below to manage a child patient during dental imaging procedures.

## **confidence is key**

Most children respond positively to kind and confident operators. The dental provider should aim to gain the child's trust, confidence, and cooperation through demonstrating patience and their own personal confidence. This will influence the success of the dental imaging procedures, helping to navigate even challenging situations.

## **voice control**

There may be times when a simple change to a more authoritative tone in the voice can resolve inappropriate behaviors with a child. Rephrasing a request that has been refused by a child with a more "I'm in charge" tone can have positive results. Additionally, facial expressions must match the tone so that conflicting messages are not given.

## **show - and - tell**

The typical child is curious and may have many questions. Before beginning the image exposures, the dental provider should show the child the equipment and materials that will be used. They should allow the child to touch the tubehead, receptor, beam alignment device, and lead apron. Then explain exactly what is going to happen. These steps will allow the provider to gain the trust of the child.





## **demonstrate behavior**

Demonstrate the exact behavior that is wanted. For example, show the child how to "hold still" or "bite down" and then have the child practice the same thing before the receptor is placed in the mouth.

## **be encouraging**

The typical child has a fear of the unknown. The dental professional should reassure the child and calm any fears about the procedures. They should appear excited and use encouraging words such as "you are doing a great job of holding still!" or "I am proud of you."

## **positive reinforcement**

One of the most effective patient management skills with any person is to reinforce positive behavior rather than correct inappropriate behavior. "You held still just like a statue, thank you!" rather than "don't move" is a simple example of reinforcing positive behavior. Most children respond favorably when they know they are pleasing an adult.

## **request assistance**

If the child is having difficulty holding still or stabilizing the receptor, ask a parent or guardian to help. The adult should wear a lead apron with thyroid collar and a lead glove. The adult can be asked to hold the receptor in place, or hold the child during the x-ray exposure.

## **postpone the examination**

It is much better to postpone the exam until a second or third visit to the dentist's office if the child is having behavior issues that cannot be managed. Only in emergency situations should an extremely fearful child be forced to take images. If the child is uncooperative and exposing images becomes problematic, have the fearful child shadow a more mature child who cooperates so that they can see the procedure done on someone else in a positive light.



# MANAGEMENT OF A *patient with disability*

The dental professional must be prepared to modify imaging techniques to accommodate persons with physical and developmental disabilities who are often treated in the dental office.

The dental professional must also recognize situations in which the patient with a disability cannot tolerate intraoral dental imaging exposure. If it is obvious that an image will be non - diagnostic, x-ray exposure should not take place. In such cases, an extraoral image (e.g., panoramic images) may be exposed instead.

## physical disabilities

The dental professional must be aware of the common physical disabilities involving vision, hearing, or mobility, and the necessary communication and imaging procedure modifications that are required.

Regardless of the disability, remember to always speak directly to the patient and not solely to the accompanying caregiver or companion. It is inappropriate to talk to the caregiver instead of the patient. It is never appropriate to talk to the caregiver about the person with a disability as if that person were not present.

Do not ask personal questions about a disability. Personal questions about a disability are inappropriate in the dental setting.

If a patient does not have someone present to assist them, do not ask if they brought a care-giver or companion. Presume that a patient with a disability is competent to handle their own dental care.

Always ask how you can assist the patient and then respect their answers. The fact that a person has a disability does not mean that help or assistance is always needed. Never distract or touch a service animal without permission.





## vision impairment

When treating a patient who is visually impaired, always verbally identify yourself when you approach the patient and introduce others who are entering the room. Use clear verbal explanations, explain each step of the imaging procedure before performing it and ask the patient what questions they have. With a patient who is visually impaired, do not raise the volume of the voice or speak in an extremely slow fashion. In addition, always inform the patient when leaving the room.

## hearing impairment

When treating a patient who is hearing impaired, the dental professional has several options. The operator should ask how they prefer to communicate --- using gestures, written instructions or a sign language interpreter. If using an interpreter, address the patient, not the interpreter. If the patient can read lips, always face the patient while speaking clearly and normally. Do not shout, exaggerate mouth movements, or speak rapidly.

## mobility impairment

If a person with a mobility impairment is a wheelchair user, respect personal space including the wheelchair. Do not propel the wheelchair unless asked to do so. If a person seated in a wheelchair does not have use of the lower limbs, ask the patient if they can transfer to the dental chair and what assistance is needed. Do provide assistance as needed. If a transfer is not possible, the necessary imaging procedures may be attempted with the patient seated in the wheelchair. Do not separate a patient from their wheelchair.

If a patient does not have use of the upper limbs and a beam alignment device cannot be used to stabilize the receptor placement, ask the caregiver to assist with holding of the receptor. In such cases, the caregiver should use a lead apron with thyroid collar and lead glove. The caregiver should be given specific instructions on how to stabilize the receptor.

## developmental disabilities

Examples of developmental disabilities include a person with autism, cerebral palsy, epilepsy, other neurologic conditions, or intellectual disability. The dental professional must make every effort to meet the needs of an individual with a developmental disability.

A person with a developmental disability may have difficulty with coordination or comprehension of instructions. As a result, obtaining diagnostic images may present as a challenge. If coordination is a problem, mild sedation may be helpful. If comprehension is a problem, simple and clear instructions should be provided. When interacting with a person with a cognitive disability, extra time may be indicated for communication, and to allow the patient to feel comfortable.

Similar to the recommendations for those with mobility impairments, the caregiver of a person with a developmental disability can be asked to assist with holding of the receptor. In such cases, the caregiver should use a lead apron with thyroid collar and lead glove. The caregiver should be given specific instructions on how to stabilize the receptor. Note: It is never recommended for the dental radiographer to hold a receptor for a patient during exposure.







# MANAGEMENT OF A *patient with gag reflex*

Effectively managing a patient with a gag reflex requires that the operator be aware of the following:

## **operator attitude**

Patients are more likely to relax when the professional demonstrates confidence and control during the procedure. Likewise, a lack of confidence may act as a psychological stimulus and actually elicit the gag reflex. Earn trust with the patient by explaining the procedure that is about to be performed and then complimenting the patient as each exposure is completed.

## **patient & equipment preparations**

The longer the receptor remains in the mouth, the greater the chance for eliciting the gag reflex. Before placing the receptor, be sure the settings are correct, and the tubehead is in place so that the time between receptor placement and exposure is minimized. Patients appreciate quick and accurate work.

## **exposure sequencing**

Always begin with the anterior exposures because they are easier for the patient to tolerate. Placement of the receptor in the maxillary molar area is most likely to trigger the gag reflex and, therefore, should be taken last.

## **placement & technique**

Avoid the palate when placing the receptor in the maxillary posterior areas. Sliding the receptor across the palate stimulates the gag reflex. Instead, position the receptor lingual to the teeth and then firmly bring it into contact with the palatal tissues using one decisive motion. Gently massaging the palatal tissue with a finger and explaining to the patient where the receptor is to be placed can desensitize the tissue and mentally prepare the patient. Digital sensors are thicker than films, but with care they can be placed in the same manner.

# HELPFUL

## hints

- **Never suggest gagging.** Asking the patient if they are a gagger only acts as a psychological trigger. If the patient brings up the topic, instead of using the word “gag” or “gagging”, refer to the reflex as a “tickle in the back of the throat”.
- **Reassure the patient.** If a patient gags, remove the receptor as quickly as possible and reassure them that the response is not unusual. The empathy and understanding helps maintain control of the situation.
- **Suggest breathing.** Ask the patient to breath deeply through their nose. For the gag reflex to occur breathing must stop; therefore, if the patient is breathing, the gag reflex cannot take place. Consider demonstrating deep breaths to encourage audible breathing.
- **Use distraction.** Diverting the patient's attention helps suppress the gag reflex. Asking the patient to “raise your right foot and twirl it in the air or “bite this tab as hard as you can” are two commonly used techniques of distraction.
- **Reduce the tactile stimuli.** Before placing the receptor, give the patient a cup of ice water or place a small amount of table salt on the tip of their tongue to confuse the sensory nerve endings and reduce the chance of a gag reflex.
- **Use topical anesthetic.** A topical anesthetic spray may be used to numb the areas that trigger a response. Instruct the patient to exhale while the anesthetic is sprayed on the soft palate and posterior tongue. CAUTION: If the patient inhales the spray, inflammation of the lungs could occur. Also be aware that sprays should not be used on patients with benzocaine allergies.





## dental imaging

### RESOURCES

There are numerous resources on available for patient education on dental imaging. The resources linked on this page include 'just a glimpse' into all that is offered!

#### WEB RESOURCES

by **ADA**

[X-Rays/Radiographs](#)

[Dental Radiographs: Benefits & Safety](#)

[X-Rays](#)

by **ADA & FDA**

[Dental Radiograph Recommendations](#)

by **ADA & Image Gently**

[Image Gently](#)

\* additional resources available upon request

### REFERENCES

Iannucci Joen M and Laura Jansen Howerton. Dental Radiography : Principles and Techniques. Sixth ed. Elsevier 2022.

\* additional text references available upon request



# SMS

course  
01

march 2023

RELEASE DATE  
**03.31.23**  
DEADLINE  
to complete at no cost  
**06.23.23**

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## instructions

- **CREATE ACCOUNT & REGISTER**

click [here](#) for Continuing Dental Education website

click [here](#) for **HOW to CREATE a NEW ACCOUNT and REGISTER**

enter your **SMS number** for your office in the final data field

- **ACCESS to COURSE**

once registered, you will be **emailed a link with instructions** on how to access the online course content

- **REVIEW COURSE MATERIALS & COMPLETE QUIZ**

complete **10-question quiz** / 75% must be correct to pass

you will be informed instantly if you pass the course and receive an email with a **CE certificate for 2.0 hours** and course evaluation

- **FREQUENTLY ASKED QUESTIONS**

click [here](#) for **FAQ** on how to register, password re-sets, how to access past certificates and course history

## questions

- **WHO can EARN FREE CE CREDITS?**

EVERY dental professional in your office

- **HOW MANY CE CREDITS are EARNED?**

two CE credits are issued for successful course completion --- credits count toward OSDB 2022-2023 biennium totals

- **WHAT if I MISS THE DEADLINE?**

submit answers by deadline to receive credits at no charge after deadline, course can be purchased until end of biennium

- **WHEN are SMS COURSES OFFERED?**

March, June, September & December (totaling 8 free CE credits)

- **HOW do I obtain the CERTIFICATE?**

certificate is available online following test completion

- **WHAT is my SMS NUMBER?**

everyone in your office uses the same SMS number (office account number) - number is on label on back of test envelope)

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