

Cracked Teeth Lecture Handout

Rod Kurthy, DMD

Kinetic Instruments Transcure Transilluminator

- Larger tip (4mm)
- Higher intensity light (best penetration of tooth structure)
- Rechargeable battery

Microlux Transilluminator

- Smaller tip (3mm)
- Less light intensity light (but still very adequate)
- Uses 2 AAA batteries (not rechargeable)
- Multiple accessories:
 - 2mm tip (\$120)
 - Posterior proximal caries attachment (disposable 0.75mm fiberoptic tip) (\$130)
 - Endo-Lite attachment (disposable 1mm fiberoptic tip for endo and surgery) (\$130)
 - Perio probe attachment (disposable 0.75mm fiberoptic perio probe) (\$130)

Order information:

Kinetic Instruments Transcure Transilluminator

\$249

www.kineticinc.com

Order via telephone (800) 233-2346

Addent Microlux Transilluminator

\$249

www.addent.com

Order via telephone (203) 778-0200

Showing patients cracks in their teeth using the Transilluminator:

Using an intraoral video camera is a must. If you do not already have an intraoral video camera, there are many available now (many made in China) that work very well and are very affordable. Ideally find one that has the ability to turn off or easily unplug the fiber optic light.

If you already have an intraoral video camera or are unable to find one that has the ability to turn off the light, you may use black electrical tape to cover the fiber optic lights on the videocam handpiece. If the lights are arranged in a circle around the lens, often a paper hole-puncher works well to punch a hole (or several punches if the lens is larger) in the black electrical tape.

Take a videocam picture of the tooth with the crack with the fiber optic light **ON**. Also take a picture of the tooth with the crack with the transilluminator up against the tooth showing the crack, but have the videocam fiberoptic light off/covered, and the dental unit light off. I actually prefer to have all lights in

the room off as well. The darker the inside of the mouth is (except for the transilluminator's light), the more easily you (and the patient) can see where the crack abruptly stops the light.

Then show the patient both photos on a video screen or laptop. If you are able to get the two photos (one with light on, and the other with the transilluminator on and other lights off) side-by-side on the same screen, that is most effective.

Prior to using the transilluminator, and after I turn off the lights in the room, I place the transilluminator against my gloved thumb and show the patient how the light penetrates my thumb. Patients are usually impressed with the light's ability. I explain that it is a "special light" with a wavelength designed to penetrate through tissue. I explain that teeth are far more translucent than my thumb, so shining the light into the tooth lights up the tooth like a light bulb, and we can see many things with this, including the presence of cracks and the depth of those cracks.

I explain that this is new technology that helps us find problems that could not be found previously, which helps us save teeth from harm and even from loss.

I explain the law of physics that states, "A beam of light will continue to penetrate through a translucent or transparent substance until it meets a space, after which the light beam is reflected." I explain that when there is a crack in a tooth, light will NOT penetrate through the crack. This allows us to determine the presence of a genuine crack, and most importantly, the depth of the crack, which will never show on x-rays.

After the patient has been educated and you've shown the patient the photos of the cracked tooth, the patient should be well aware of the problem. Then show the patient one, some or all of the cracked teeth photos to vividly explain what can happen as the crack gets deeper.

I always tell the patient that this crack did not happen because of one incident or accident, but that the crack occurred over time due to teeth biting together, chewing, etc. I explain that the deeper the crack is, the weaker the tooth is, so the FASTER the crack continues to get deeper. And of course I explain that the same forces that caused the crack are still going on, causing the crack to get deeper and deeper.

I also warn the patient that cracks are "silent" most of the time – that patients typically do not feel the cracks until the tooth breaks, which is often too late to save the tooth. I also inform them that sometimes the crack is already into the pulp/nerve of the tooth, and may have caused damage already to the pulp, even when no symptoms are felt. I tell them that because of this, sometimes root canal therapy is found to be necessary when the tooth is treated.

And finally, I ask the patient to refrain from chewing anything hard or even firm on that side of the mouth until we have a chance to treat the tooth – we don't want the crack getting even deeper, or worse yet, breaking before we can get to it. I tell patients that I've had patients break teeth during the time between the dental exam and the scheduled appointment. This reinforces the importance of treating the tooth.

Cracked Teeth Photo Album

As a gift, only for attendees of Dr. Kurthy's Cracked Teeth lecture, you may request a link providing the documents that you may print out on photo paper to create a *Cracked Tooth Photo Album* with your name on the front.

This material is under copyright and may not be used by anyone other than attendees of the lecture. You are required to sign a statement (provided to you at the lecture) agreeing to use the photos only in your practice with your patients. You may not share these photos with others outside of your own dental practice, and you may not post the photos on the internet, including your own practice website.

You will provide all your contact information (including your email) on this form. You will receive an email with the link to download all information. You may use the documents in this link to download and print out on photographic paper. If you do not have a photo quality printer, you may have these printed for you at Staples or many other stores.

You may then use a standard 3-ring binder. Place the pages of photos in clear page protectors and place them in your 3-ring binder. The cover is provided in a Word Document format so that you may add your name or the name of your practice, and print this out on photo paper. This then will slide into the clear pocket on the front of the 3-ring binder.

If you do not receive this email with link, please call KÖR Whitening to have this email link sent to you.

Cracked Tooth Narrative

When submitting to insurance companies for treatment of cracked teeth, it is usually necessary to provide a written narrative because cracks cannot be seen on radiographs. Most often we find caries or recurrent caries within the cracks or associated with the cracks. Below is a common insurance narrative that I have found very effective.

For your information and understanding:

Third party payers cannot see fractures on radiographs. Photographs of cracks do not give any indication of how deep the crack is unless your photograph is taken while using the transilluminator.

Insurance companies, just like dentists, may not insist that you practice outside of or below the legal Standard of Care. The recognized methods to confirm bonafide CTS (Cracked Tooth Syndrome) are:

- 1) Tooth Sleuth Crack Detector
- 2) Transillumination
- 3) Cold test (Endo Ice, etc.)

If you have the ability to show how deep a crack is using transillumination, and getting a photograph (with no flash) or a video camera image (with the fiberoptic video camera light turned off or covered) and providing this to the insurance company, this is undeniable proof of a dangerous crack.

A caveat regarding insurance: Many insurance carriers cover only dental “disease”. A crack, technically, is not “disease”. Therefore, many insurance companies may deny coverage of a cracked tooth based on this technicality. So, if you find even slight caries in the tooth (which is most common when a crack is present), be sure to note the caries on the insurance form narrative. The presence of caries in dentin requires restoration according to the *Standard of Care*. If a tooth with a significant crack has any caries in the crack or elsewhere, according to the *Standard of Care*, the tooth must be restored in such a manner to protect the tooth from deepening of the crack.

The insurance company may not tell you to restore the tooth with simply a filling because you have provided them with the proof that there is genuine CTS, and the legal *Standard of Care* DICTATES cuspal coverage (crown or onlay).

You have informed the insurance company that there is recurrent caries. When caries is present, they MUST provide benefits to restore the tooth in some “acceptable” manner – they cannot tell us to treat the patient beneath the legal *Standard of Care*).

Sample Narrative to Insurance Company:

Tooth #13 with caries [recurrent caries or caries within the crack], deep mesio-distal vertical crack, and CTS (Cracked Tooth Syndrome) confirmed with Tooth Slooth Crack Detector, transillumination, and cold pulp test. Current Standard of Care contraindicates placement of fillings in teeth with CTS, and dictates occlusal coverage via crowns or onlays.

Standard of Care also dictates excavation of the vertical crack, requiring bonded core buildup after full excavation of the crack.

It is also helpful to provide literature citations to back up what you have said in your narrative:

- Batalha-Silva S, Gondo R, Stolf SC, Baratieri LN. Cracked tooth syndrome in an unrestored maxillary premolar: a case report. J Operative Dentistry. 2014 Sep-Oct;39(5):460-8.
- Roh BD, Lee YE. Analysis of 154 cases of teeth with cracks. J Dental Traumatology. 2006 Jun;22(3):118-23.
- Benenati FW. Coping with cracked tooth syndrome. J Oklahoma Dental Assn. 1996 Winter;86(3):16-8.
- Sebeena M, Boopathi T, Chalakupuzhiyil A M, SivaKumar K, Karthick K, Arjun D. Diagnosis of Cracked Tooth Syndrome. J Pharmacy & Bioallied Sci. 2012 Aug; 4(Suppl 2): S242–S244.
- Kahler W. The cracked tooth conundrum: terminology, classification, diagnosis, and management. Amer J Dentistry. 2008 Oct;21(5):275-82.
- ENDODONTICS: Colleagues for Excellence. Cracking the Cracked Tooth Code: Detection and Treatment of Various Longitudinal Tooth Fractures. American Association of Endodontists, Summer 2008.

Rod Kurthy, D.M.D.
email - RKurthy@EvolveDental.com
www.KoRWhitening.com
(866) 763-7753