

K-LITE

by Katherine Losada

Make the invisible visible

Why K-Lite?

Modern dental composites and adhesives contain fluorophores which help in producing better aesthetic results. This gives them a fluorescent property.

Under certain wavelengths of illumination [UV-A 395 to 400nm), these materials can be distinguished from tooth tissue. Therefore, significantly reducing risk of iatrogenic tooth damage when they need to be removed. The K-Lite is a ground breaking dental device that allows:

1. the removal of excess or unwanted dental materials such as composites or adhesives. Some of the examples include orthodontic brackets, attachments and retainers, residual cements etc.
 2. its use in dental trauma (Splint) and/or in the so-called Fluorescence-assisted Identification Technique (FIT).
These two objectives were the motivation for the author to develop and produce the new lamp K-Lite in cooperation with the company Smile Line SA, Switzerland.
 3. It can assist in the identification of certain bacterial byproducts found in plaque, calculus and in infected dentine.
- Easy and fast use
 - Dual UV and Daylight LEDs
 - Portable - No cable
 - Easy to handle - Light weight



Item no. 3000-KL

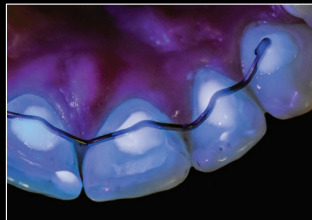


i create... we create

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Without K-Lite : no possible composite adhesive detection.



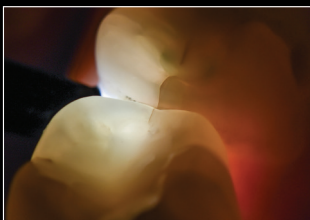
With K-Lite : visibility of the material for control of excess.



Presence of pigments due to bacteria degradation in a cervical lesion.



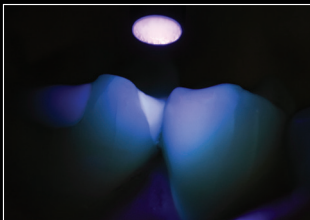
Control after removal of infected area.



Detection of interproximal caries and cracks thanks to white light's transillumination.



Opalescence and cracks in the tooth visible with white light's transillumination.



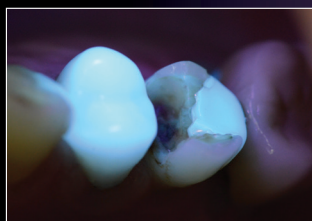
K-Lite shows the restoration margins and integrity of the composite filling.



Dual use of K-Lite : UV light shows fluorescent filling and white light shows cracks of tooth.



Without UV light it's not easy to detect the kind of restoration material and its extension.



With K-Lite's UV light the identification of composite materials and their extensions is easy.



This is to allow remove attachment after alignment treatment (orthodontic).

How does it work ?

To achieve our aim, we designed a dual portable flashlight guided by a glass fibre optic, which consists of :

- a **White LED (6000 °K)** for transillumination (i.e. visualisation of opalescence, crack lines and fractures).
- a **UV-A LED (violet light)** that, when directed onto composites or adhesives with fluorescent components, calculus or plaque, it makes them easier to detect. This way, it helps the clinician to precisely remove them avoiding iatrogenic damage to the healthy underlying tissues.

Product summary

The aim of a minimal invasive dentistry is to preserve as much of the sound tooth tissue as possible. Studies have shown that whilst clinicians are careful in removing excess or unwanted dental materials from tooth tissue, with little guidance this could lead to either excess tooth tissue removal and/or to retention of unwanted dental material.

After extensive research and development, a solution to the common problems described above can be achieved using K-Lite.

The K-Lite, backed by clinical trials, is a high quality, efficient, effective and affordable solution to the problems outlined above.

K-Lite was developed and designed by Dr. K. Losada.

