




## MICROLUX INSTRUCTION MANUAL

### Microlux Transilluminator

#### Operation and First Time Use

Remove the strip isolating the batteries from the back of the Microlux by removing the end cap by turning counter clockwise. When replacing the end cap make sure the cap goes on straight and then rotate the end cap clockwise until the light comes on. The end cap incorporates a push-button switch, which can be momentarily activated by unscrewing the cap slightly and depressing the black button.

#### Warning

 Insert the glass light guide into the plastic chuck with firm pressure. The stainless steel ferrule at the end of the light guide should be covered by the plastic chuck and a slight click may be heard. To remove, rotate slightly and pull on the light guide at the same time. This focused image grade light guide is fragile – handle with care.

If the Microlux is to be placed back into the original box, be sure the end cap is rotated sufficiently counter clockwise so that the light doesn't come on.


#### Maintenance

If the Microlux is not going to be used for more than six months, it is recommended that the batteries be removed.

When replacing batteries, it is important that they be placed in proper polarity. Place each battery with the positive (+) terminal in the front towards the LED.

#### Cleaning – Housing

The aluminum housing can be wiped down with most any disinfectant. Do not spray disinfectant onto unit.

 **DO NOT AUTOCLAVE THE LED HANDPIECE LIGHT SOURCE. DOING SO WILL VOID YOUR WARRANTY. DO NOT AUTOCLAVE THE PERIO PROBE WITH THE FIBER INSERT IN PLACE. DOING SO WILL VOID YOUR WARRANTY**

Be especially careful not to get disinfectant into the front of the chuck assembly, since this could damage the LED contacts or reduce the light output. **DO NOT AUTOCLAVE.**

#### Cleaning – Fiber Optic Light Guide

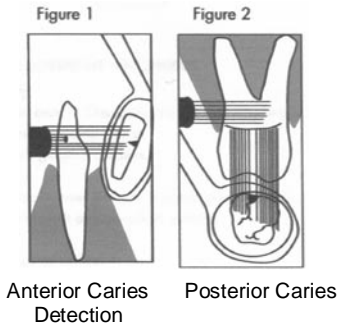
The fiber optic light guide is a high quality image grade glass light guide designed to focus the LED light at the output. The light guide can be wiped with disinfectant, cold sterilized, autoclaved, or heat sterilized. It is not recommended they be chemclaved.

## MICROLUX TRANSILLUMINATION TECHNIQUE GUIDE

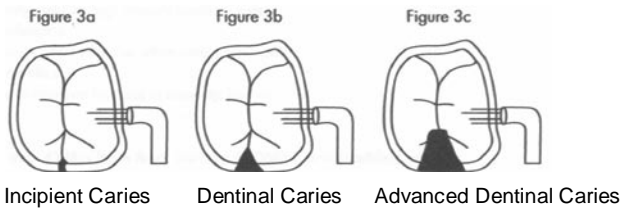
### CARIES, CRACKS, CALCULUS

The fiber optic light guide is a high quality image grade glass light guide designed to focus the LED light at the output. The light guide can be wiped with disinfectant, cold sterilized, autoclaved, or heat sterilized. It is not recommended they be chemclaved.

- Place the fiber optic probe adjacent to the oral structure under examination.
- The passage of the light through the tissue is proportional to the translucency of each material.
- Caries, calculus, cracks and the orifice of root canals do not transmit as much light as healthy enamel or dentin and appears darker.
- To visualize anterior proximal caries place the probe on the labio-cervical region of the tooth and examine the surface from the lingual with a mouth mirror (Figure 1).
- Next, the probe is placed on the lingual and the caries viewed from the labial. Anterior caries are usually best observed from the lingual, appearing dark in relation to intact tooth structure.
- To visualize posterior proximal caries, place probe on the cervical area of the tooth, buccally or lingually. The light passes into the cervical tooth structure and then radiates occlusally. Caries appear as dark shadow on the occlusal surface (Figure 2).

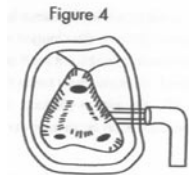


- The progression of a carious lesion can also be observed. Early stage caries appears as a small rectangular shadow in the enamel (Figure 3a).
- After penetration into dentin, the lesion spreads along the dentino-enamel junction and appears as a triangular shadow (Figure 3b).
- The advanced lesion will usually produce a trapezoid shadow in the dentin (Figure 3c).
- Calculus can also be demonstrated by the transillumination technique. It appears dark in contrast to the translucent enamel and dentin in the cervical region.
- Diagnosis of crown fracture is aided by the transillumination. The fracture plane will not transmit light, and appears as a dark line.



## ROOT CANAL ORIFICE

In endodontic treatment, transillumination helps locate the root canal orifice once the pulp chamber is opened and its contents removed. To visualize this condition, the probe is placed on the bucco-cervical area of the crown. The base of the pulp chamber readily illuminates, however canal orifice appears as dark shadows. (Figure-4)



## APPLICATIONS FOR DIFFERENT SPECIALTIES

### 1. General Dentistry

- A. Assists in detection of caries. This technique is especially helpful for location of caries which may be blocked on x-ray due to existing fillings.
- B. Locates supra and sub gingival calculus.

### 2. Prosthodontics

- A. Location of the dentino-enamel junction in crown preparations.
- B. Location of fractures in teeth and porcelain jackets.

### 3. Endodontics

- A. Location of the root canal orifice.
- B. Detection of broken instruments in the root canal.
- C. Location of root fractures.

### 4. Periodontics and Dental Hygiene

- A. Useful as an auxiliary light source during periodontal surgical procedures.
- B. Assists in detection of sub gingival calculus.
- C. Helps demonstrate decay and calculus directly in the patient's mouth and is a valuable aid in patient motivation.
- D. Oral hygiene instruction and routine screening procedures by the hygienist or assistant.

### 5. Oral Surgery

- A. Aids in detection of soft tissue lesions when used with DL Light guide and Acetic Acid Rinse-covered in our Microlux/DL sales literature.
- B. Location of bone chips and fractured root tips.
- C. Generally useful as high intensity auxiliary light.

### 6. Orthodontics

- A. Location of proximal caries when teeth are banded.

### 7. Pedodontics

- A. Diagnosis of crown fractures in traumatic injuries.

## Microlux Perio Probe

### Intended use:

This is a high intensity light with a .75 mm diameter fiber. The distal end of the fiber is marked at 3 , 5 and 7 mm, illuminated gradations making it ideal for identifying pocket dept in difficult to see areas. It's also useful in measuring gingival recession.

### Instructions:

Identify the blue coated end of the Perio fiber and slide that end all the way to the bottom of the Perio Probe base until it stops. Insert the Perio Probe accessory into the nose cone of the Microlux unit. Turn the Microlux unit on by twisting the bottom cap.

## Microlux Fiber-Lite

### Intended use:

1. Visual inspection of the root canal. This is a very high intensity light in a 1.0 mm diameter fiber making it ideal for endo, perio or surgical procedures.
2. Transillumination of the root when examining for root fractures. This procedure is used when an endodontically treated tooth that is missing a crown is suspected of being fractured.
3. Examination for proximal caries on posterior teeth. The Fiber-Lite's thin light guide can be inserted interproximally lighting up the marginal ridge area of both teeth, and showing caries as a shadow of proximal decay on the marginal ridge.

### Instructions:

Slide the plastic fiber tip all the way to the bottom of the Fiber-Lite until it stops. Insert the Fiber-Lite into the nose cone of the Microlux unit. Turn the Microlux unit on by twisting the bottom cap.

### Replacement Parts / Accessories:

PN 630003 Standard 3mm Light Guide  
PN 600045 Micro Tip 2mm Light Guide  
PN 640014 Standard Mirror Attachment  
PN 640028 Micro Mirror (oval)  
PN 600053 Microlux DL Light Guide  
PN 630006 Battery type N 1.5v  
PN 640035 Fiber-Lite with 5 Fiber Light Guides  
PN 640039 Fiber-Lite Refill Kit (Qty 25)  
PN 640041 Perio Kit with 5 Fiber Light Guides  
PN 640042 Perio Guide Refill Kit (Qty 25)

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