

WHITE PAPER F.L.A.G.™ FOR B.LED

B.LED technology revolutionises Prophylaxis

Maintaining **good oral hygiene** helps to prevent the occurrence of periodontal diseases such as gingivitis and tooth decay. This will ensure the success of periodontal treatments. ⁽¹⁾

Rigorous scaling as well as some training on brushing teeth and risks related to plaque accumulation is advised. This makes the patient aware that he has a role to play in his treatment plan and therefore he becomes more involved.

Dental plaque, which is invisible to the naked eye, consists of salivary proteins, food, bacteria and toxins secreted by bacteria. Embedded within a matrix, biofilm becomes subject to bacterial colonization and antiseptic resistance. If dental plaque is not removed daily by brushing all teeth surfaces, it matures and within 48 hours it calcifies and becomes tartar. Accumulation of the bacterial flora produces acidity leading to demineralization of the enamel. It also generates **inflammation** of the gum that can reach the periodontium and causes loss of bone support. ⁽²⁾

Disclosing agents can be used to reveal dental plaque. They exist in different forms (chewable tablets, solutions, disclosing gels, etc.) and molecules: erythrosine (red/purple), phloxine b (blue/purple).

However, these disclosers color both dental plaque and healthy tissues and leave a residue of color on the teeth and gums. ⁽³⁾

A new system based on **fluorescein revolutionizes the disclosing agents acceptance**: the solution is almost invisible in the mouth and fluoresces in yellow-green under a blue light source. Fluorescein leaves no residual color on teeth and tissues. ^{(2) (4)}

B.LED technology: a clinical innovation by ACTEON®

B.LED technology is the **exclusive combination** of a fluorescent plaque discloser **F.L.A.G.™ for B.LED** and a patented blue light on the **NEWTRON® SLIM B.LED** handpiece. Composed of fluorescein, the discloser specifically adheres to the bacteria responsible for dental plaque. F.L.A.G.™ for B.LED becomes fluorescent under the blue light of the handpiece, thus revealing dental plaque during diagnosis and treatment.



F.L.A.G.™ for B.LED is available in a kit containing 5 single-dose bottles of 1.5 ml or in a 100 ml bottle.



F.L.A.G.™ for B.LED can be used in two ways:

- Direct application onto the teeth using the disposable brush
- Dilution in the ultrasonic generator NEWTRON® B.LED XS's tank filled with 300 ml of water.

Therefore, B.LED technology is available for the NEWTRON® B.LED, NEWTRON® B.LED XS and for the **dental chair**.

A clinical procedure guided in real time for better treatment

B.LED technology **detects and removes dental plaque simultaneously**.

The areas affected by dental plaque are perfectly targeted allowing the dentist to focus his attention exclusively on them. The treatment is optimized through a relevant use of instruments, in accordance with current trends of minimal invasive procedures, and a time saving. Indeed, a randomized clinical study on 30 patients conducted by Dr Marrien and Vigouroux shows that undertaking scaling with B.LED technology takes **9.7 seconds less** (on six teeth) than conventional scaling. ⁽²⁾



Almost 3 times as much plaque removed with B.LED technology

The previous study also proves that the use of F.L.A.G.™ for B.LED improves dental plaque removal by **19.5%** in comparison with traditional treatment.

A further check by a new application of F.L.A.G.™ for B.LED has even demonstrated that **26% more plaque** was remaining on the area treated without F.L.A.G.™ for B.LED.



Therefore, B.LED technology improves the quality of care through **more rigorous removal** of dental plaque.

A real tool for patient motivation

The B.LED technology will make the treatment shorter and more efficient, therefore more comfortable for the patient. Furthermore, B.LED technology can be used as a tool for educating the patient on oral hygiene. After applying F.L.A.G.™ for B.LED on the teeth and highlighting them with the blue light of the NEWTRON® SLIM B.LED handpiece, the practitioner can, with the aid of a mirror, show the patient the fluorescent zones missed while brushing.

During these sessions, the patient will be able to see for himself the improvement in his oral hygiene. So he will be more able to appreciate the dentist's work and understand the necessity of a prophylaxis session.



B.LED technology brings a new vision of prophylaxis. It not only makes scaling more pleasant, it also allows the practitioner to improve his treatment.

Bibliography:

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(4) *Brilliant Herbert*. «Use of fluorescent dyes in dental diagnostic methods». United Patent Office; 1967

Clinical pictures: Courtesy of Dr. F.VIGOUROUX, Bordeaux, France.

