

# FLAT TOP HANDPIECE

## *AB* 2799



The **AB2799 FLAT TOP HANDPIECE** can be used in the mouth and the perioral area to treat pain and inflammation caused by traumas or joint dysfunctions. It also favours the healing of herpes and aphtae. After extractive surgery, implant placement, decontamination or regeneration of gingival tissue, the **AB2799 FLAT TOP HANDPIECE** speeds up healing and reduces post-op pain and swelling by promoting cellular proliferation and the formation of new blood vessels and bone tissue.

developed by:



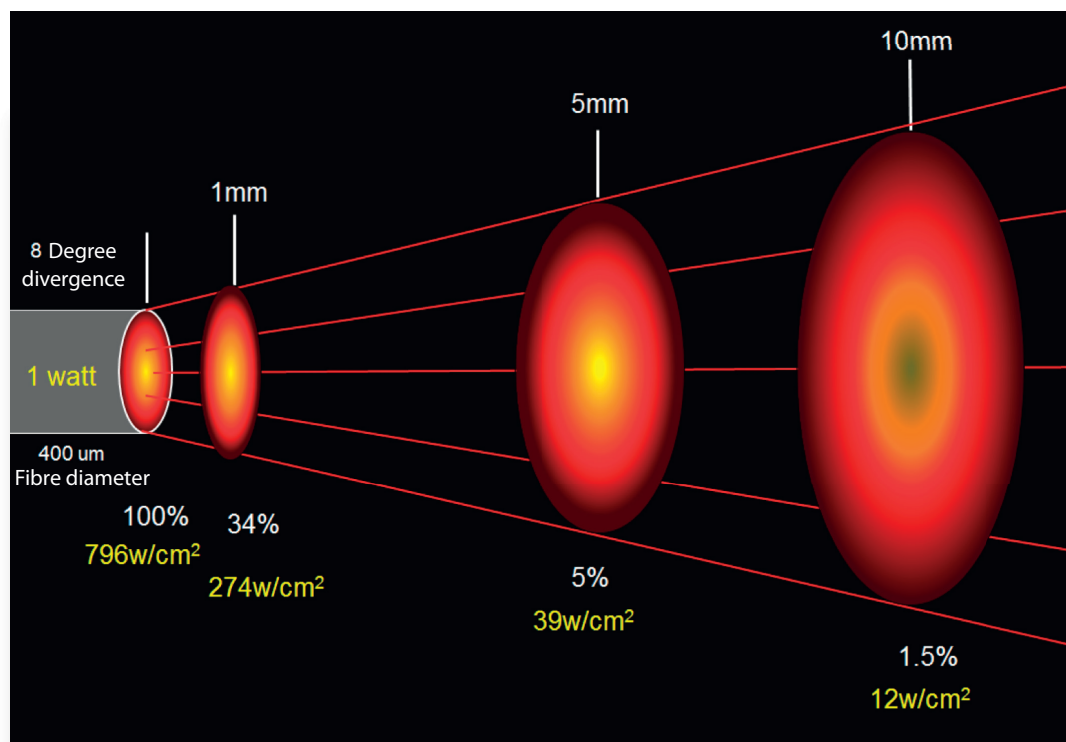
GENOA  
UNIVERSITY

# FLAT TOP AND PHOTOBIOMODULATION: AN EFFECTIVE ACHIEVEMENT IN THERAPEUTICAL WELLBEING

**Photobiomodulation (PBM)** sets off a cascade of metabolic effects and changes in the physiology of cells. Mitochondria and the membrane of targeted cells absorb the photons that exit the laser source. Once the photons have been absorbed by a cell, the energy remains trapped in its molecules and increases the kinetic energy by activating or deactivating enzymes, or by altering the main chemo-physical characteristics of the main macromolecules. The response of cells and tissues in terms of growth factor is the result of an increase in ATP and protein synthesis, an increase of cell proliferation and a change in the membrane permeability for the absorption of calcium.

Such effects lead to improved wound healing and tissue regeneration, by preventing tissue death. PBM guarantees relief from inflammation caused by chronic disease, in the case of neurogenic pain or other neurological conditions.

In order to be effective, PBM requires that the photonic energy reach the destination cells with the proper intensity, in equal parts. Each cell within the path of the energy must be irradiated with the same number of photons within the established interval. To do so the ideal solution requires the use of a device able to emit a Square Wave. The Gaussian wave that defocalized handpieces generate, on the contrary drastically reduces the output energy when the handpiece is held at a distance from the targeted tissue: at a distance of 1mm the energy dispersed is already 65% (see illustration below).

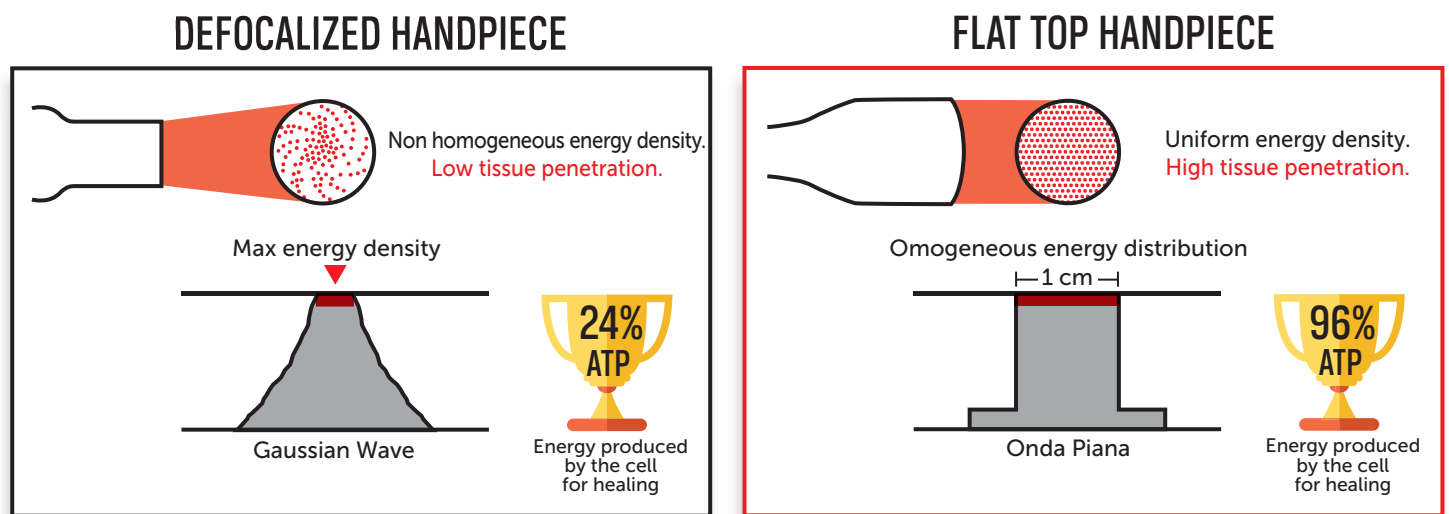


*Illustration of energy the loss of a Gaussian wave handpiece*

Created by Prof. Alberico Benedicenti of the University of Genova, Italy, in collaboration with Doctor Smile, the AB2799 FLAT TOP HANDPIECE can deliver the optimal amount of energy over a constant surface of 1 cm<sup>2</sup>, so that the Photobiomodulation (PBM) protocols can be easily applied.

A special lens system in the FLAT TOP handpiece keeps the laser beam constantly focused so that it always emits the same energy density: **the laser beam profile is therefore flat, not conical, as most handpieces are.** This means greater efficiency and better therapeutical results.

Thanks to this exclusive feature the handpiece can be moved up to 105 cm from the surface without modifying the quantity of energy and without direct contact: no mistakes, no waste of time.



The AB2799 FLAT TOP handpiece can be used to treat different conditions and in physiotherapy.

### Conditions

Acne, Migranes, Headaches, Stiff neck, Tinnitus, Herpes Simplex, Vasomotor Rhinitis, Trigeminal Neuralgia, Vertigo, Front and nasal Sinusitis, Gingivitis, Gingivectomy, Periodontitis, Periimplantitis, Stomatitis, Aphtae, Leucoplachia, Lichen ruber planus, Pempha, Ectodermosis, Epulis, Angioma, Carcinoma, Bone Demineralization, Bone Regeneration with PRGF, Crown lengthening (after Erbium Laser gingivectomy), Deep Caries Treatment (After Removal of Caries with Erbium Laser), Dental Fracture (after Erbium laser treated tooth reconstruction with), Exostosis (after surgical bone removal with Erbium laser).

### Physiotherapy

Shoulder arthrosis, Scapula-humeral Peri-arthritis, Cervical, dorsal, lumbar-sacral arthrosis, Intercostal Algas, Brachial Lymphadema, Tennis Elbow, Elbow Joint Distortion, Post-surgical Edema, First finger Joint Distortion, Finger Arthrosis, Raynaud's Disease, Finger Arthritis, Acroparesthesia, Knee Arthrosis, Knee Joint Distortion, Tendinitis, Talalgia, Varicose Ulcer - Trophic Ulcer, Sciatica, Arthritis, Arthrosis, Distortion, Astragalisation, Heel spur.

# REASONS TO INVEST IN THE FLAT TOP HANDPIECE

ADJECTIVE	CHARACTERISTIC	ADVANTAGE
UNIQUE	The only handpiece patented by the Faculty of Medicine of the University of Genoa, Italy.	Guaranteed effectiveness.
ADVANCED	50 years of research for optimal protocol development.	Predictable and repeatable results.
FAST	The power is distributed equally over the area in order to have the same effect at 1,5 cm or at 1 m distance.	Greater efficiency and comfort for patients. Faster treatment schedule.
UP TO DATE	Continuous research for new applications.	Slows device ageing.
VERSATILE	Photobiomodulation handpiece can treat many conditions.	Indispensable in dentistry for biostimulation, effective in analgic pain therapy, useful in aesthetics. More treatments = more patients.
SAFE	The laser beam does not have a Gaussian shape.	No side effects.
CONSTANT	Irradiates the same fluence at any distance.	User friendly device, easy to use.
FULLY ASSISTED	With the purchase of the Flat Top Handpiece a specialized training course for advanced use, and the book Atlas of Laser Therapy by Prof. Benedicenti.	Significant training for risk free results.
COMFORTABLE	Light and ergonomic, with a flexible cable.	Less hand fatigue for better movement.
PROFITABLE	Increase the number and type of treatments in the studio.	Stand out from others.
MADE IN ITALY	Invented by Prof. Alberico Benedicenti of the University of Genova, Italy and produced by Doctor Smile.	Certain of purchasing a top quality device.