Plasma Bleaching "Having a Whiter Future"

What is Plasma???
Plasma is a distinct phase of matter, separate from traditional solids, liquids and gases. It is a collection of charged particles that respond strongly to electromagnetic fields, taking the form of gas-like clouds and ion beams. Since the particles in plasma are electrically charged (generally by being stripped of electrons), it is frequently described as "Ionized Gas". Plasma was first identified (as "Radiant Matter") by Sir William Crookes in 1879. It was Irving Langmuir who assigned the term "Plasma".

Potential Complications of Bleaching with Hydrogen Peroxide + Heat

Fig. 1 and 2: External cervical resorption
There are due to high temperature used during bleaching and increased concentration of H\textsubscript{2}O\textsubscript{2}, which can be avoided using the novel technique of Plasma Bleaching.

![Fig. 5: Production of plasma](image1)

![Fig. 6: Mechanism of plasma action](image2)

![Fig. 7 and 8: Chairside plasma device](image3)

![Fig. 9: Application of plasma jet (in vitro)](image4)

![Fig. 10: Before](image5)

![Fig. 11 and 12: C: H\textsubscript{2}O\textsubscript{2} + plasma (10 min.); D: H\textsubscript{2}O\textsubscript{2} alone (10 min.)](image6)
Advantages of Plasma Bleaching

1. Lesser amount of heat production (around 38°C)
2. Increased amount of OH ions (twice than with H₂O₂ alone), so better results
3. Reduction in tooth surface proteins (measured by Ponceau Staining)

So, Plasma Bleaching is a more effective and saver method of tooth bleaching, making its way for the future.

This Poster was submitted by Dr. Ravi Sood.

Correspondence address:
Dr. Ravi Sood
K. D. Dental College and Hospital
B. R. Ambedkar University Agra, Department of conservative dentistry and endodontics
Room No.4
Delhi-Mathura Road, National Highway-2
P.O. Chhatikara Mathura – 281006
Uttar Pradesh, India
PLASMA BLEACHING

What is Plasma??
Plasma is a distinct phase of matter, separate from traditional solids, liquids and gases. It is a collection of charged particles that respond strongly to electromagnetic fields, taking the form of gas-like clouds and ion beams. Since the particles in plasma are electrically charged (generally by being stripped of electrons), it is frequently described as "Ionized Gas". Plasma was first identified (as "Radiant Matter") by Sir William Crookes in 1879. It was Irving Langmuir who assigned the term "Plasma".

POTENTIAL COMPLICATIONS OF BLEACHING WITH HYDROGEN PEROXIDE + HEAT

- External Cervical Resorption
- Tooth Hypersensitivity
- Enamel Erosion

These are due to high temperature used during bleaching and increased concentration of H_2O_2, which can be avoided using the novel technique of PLASMA BLEACHING.

ADVANTAGES OF PLASMA BLEACHING:
1. Lesser amount of heat production (around 38°C).
2. Increased Amount Of OH ions (Twice than with H_2O_2 Alone). So better results.
3. Reduction in tooth surface proteins (measured by Ponceau Staining).

So, Plasma Bleaching Is a More Effective And Safer Method Of Tooth Bleaching, Making Its Way For the Future.