Hygiene Applications for Photobiomodulation Therapy

Angie Wallace, RDH
Jeanette K Miranda, RDH BSDH

Owasso, OK
Sioux Falls, SD

Disclosure:

Both Mrs. Wallace and Ms Miranda use the Thor laser.
HYGIENE APPLICATIONS FOR PHOTOBIOMODULATION THERAPY

COURSE OBJECTIVE

- Identify dental hygiene procedures for PBM Therapy
- Understand protocols and settings for procedures
- Demonstrate laser safety knowledge for using PBM Therapy
- Demonstrate competency for hands-on knowledge
WHAT CAN THE RDH DO WITH PBM THERAPY?

- Gag reflex
- TMJ
- Aphthous Ulcers
- Periodontal Disease
- Dentin Hypersensitivity
- Oral Lichen Planus
- Xerostomia and Hyposalivation
- Herpetic lesions

OTHER PBM THERAPY PROCEDURES

- Recurrent Aphthous Ulcers (RAU)
- Oral Lichen Planus
- Herpes Simplex infections
- Xerostomia
- Burning Mouth Syndrome (BMS)
- Mucositis
- Paresthesia
- Implants
- Pain from Orthodontic Treatment
- Periodontology
- Temporomandibular Joint Disorders (TMJ)
**Gag Reflex**

<table>
<thead>
<tr>
<th>Keywords</th>
<th>Gag Reflex</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treatment Plan</td>
<td>Immediately prior to oral procedure 600 mW/cm²</td>
</tr>
<tr>
<td>Intention</td>
<td>Treat Acupuncture Points</td>
</tr>
<tr>
<td>Probe</td>
<td>810nm 200mW laser</td>
</tr>
<tr>
<td>Pulse</td>
<td>Continuous</td>
</tr>
<tr>
<td>Tx Time</td>
<td>30 sec</td>
</tr>
<tr>
<td>Tx Targets</td>
<td>Acupuncture points CP6 Bilateral CV 24</td>
</tr>
</tbody>
</table>

The colours represent which probe to use and where to place it - illustrated for right side of face
GAG REFLEX

NEVER USE LASER on or near the eye
(You can use LED THROUGH CLOSED EYES)

TMJ
TMJ

Aphthous Ulcers
APHTHOUS ULCER

Hold probe ~15mm from tissues so the beam distributes evenly over the ulcer

NEVER USE LASER on or near the eye. Patient, therapist and observers should always wear laser safety glasses.

PERIODONTAL DISEASE

<table>
<thead>
<tr>
<th>Keywords</th>
<th>Periodontal Disease / gum disease / bleeding gums</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treatment Plan</td>
<td>Twice weekly until improvement (should be 3-4 weeks), then weekly then space out.</td>
</tr>
<tr>
<td>Intention</td>
<td>OPTIONAL: if chronic and poor to respond can treat to stimulate lymph nodes to reduce inflammation &amp; edema, reduce inflammation, stimulate local tissue repair</td>
</tr>
<tr>
<td>Probe</td>
<td>LED Cluster, Intra-oral LED probe, LED Cluster</td>
</tr>
<tr>
<td>Pulse</td>
<td>2.5Hz, 2.5Hz, 2.5Hz</td>
</tr>
<tr>
<td>Tx Time</td>
<td>1 Min, 1 Min, 1 Min</td>
</tr>
<tr>
<td>Tx Targets</td>
<td>OPTIONAL: if chronic and poor to respond, treat over cervical lymph nodes, over specific teeth periodontal tissue, hold 10-15 mm away from periodontal tissue for best results, OPTIONAL: if chronic and poor to respond, treat over external aspect of affected soft tissues</td>
</tr>
</tbody>
</table>

The colours represent which probe to use and where to place it.
PERIODONTAL DISEASE

DENTIN HYPERSENSITIVITY

NEVER USE LASER on or near the eye (you can use LED THROUGH CLOSED EYES)
DENTIN HYPERSENSITIVITY

ORAL LICHEN PLANUS
ORAL LICHEN PLANUS

Hold laser ~15mm from the target tissues so the beam distributes evenly over large area.

NEVER USE LASER on or near the eye. Patient, therapist and observers should always wear laser safety glasses.

XEROSTOMIA AND HYPOSALIVATION

| THOR | Hyposalivation and xerostomia
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Keywords</strong></td>
<td>Hyposalivation and Xerostomia, dry mouth, dry mouth syndrome, salivary gland secretion dysfunction.</td>
</tr>
<tr>
<td><strong>Plan</strong></td>
<td><strong>ORAL</strong> - Treatment 1 - 24 hours prior to each infusion or radiotherapy session OR, use therapeutically once symptoms are apparent. Treat 2 or 3 times a week until symptoms improve. Daily treatment can be undertaken if convenient and if not resolving.</td>
</tr>
<tr>
<td><strong>Intention</strong></td>
<td>Prophylactic stimulation or therapeutic treatment of salivary glands to reduce incidence and severity of hyposalivation.</td>
</tr>
<tr>
<td><strong>Probe</strong></td>
<td>LED cluster probe, Intraoral red 75mW laser probe</td>
</tr>
<tr>
<td><strong>Pulse</strong></td>
<td>2.5Hz, 2.5Hz</td>
</tr>
<tr>
<td><strong>Tx Time</strong></td>
<td>1 Min, 1 Min</td>
</tr>
<tr>
<td><strong>Targets</strong></td>
<td>Extra oral: 3 points targeting over salivary glands (parotid, sublingual and submandibular)</td>
</tr>
<tr>
<td></td>
<td>Intra oral: Target salivary glands (parotid, sublingual and submandibular)</td>
</tr>
</tbody>
</table>
XEROSTOMIA AND HYPOTSALIVATION

HERPETIC LESIONS
HERPETIC LESIONS

Determine if probe used is a diode laser or an LED light

LED Probe is a Class 3B laser
- Presently, there are no safety requirements for LED probes.
- Safety glasses are recommended

Diode Laser is a Class 4 laser
- Everyone in operatory must wear approved safety glasses
- Never leave key in equipment when not in use

PBM THERAPY SAFETY
ASEPSIS

- Use disposable sheath when direct contact to tissue is expected
- Wipe with a non-corrosive, non-abrasive antiseptic solution

LET’S PLAY

- Three Thor lasers are available
- Determine if you are using LED or Diode to determine if safety glasses are required
REFERENCES


- Low Level Laser Therapy
101https://www.djoglobal.com/.../Low%20Level%20Laser%20Therapy%20...