Oral Appliance Therapy: Improving Odds of Success

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Conflict of Interest Disclosures for Speakers

1. I do not have any relationships with any entities producing, marketing, reselling, or distributing health care goods or services consumed by, or used on, patients, OR

2. I have the following relationships with entities producing, marketing, reselling, or distributing health care goods or services consumed by, or used on, patients.

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<th>Type of Potential Conflict</th>
<th>Details of Potential Conflict</th>
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3. The material presented in this lecture has no relationship with any of these potential conflicts, OR

4. This talk presents material that is related to one or more of these potential conflicts, and the following objective references are provided as support for this lecture:
Objectives

• Review the current practice parameters for OA therapy
• Assessing patient from dental perspective
• Understand conventional approaches for clinical decision making
• Current status of OA titration with temporary trays
• Multidisciplinary approach – the physician + dentist initiatives
Management of OSA

CPAP

Alternative Treatments
Management of OSA

CPAP

Non CPAP Rx

Patient
The Knock-Out Punch
Predicting Outcomes with OA Therapy

- Sex
- Is OSA positional?
- Age
- What’s the BMI?
- Neck Size?
- Co-morbid Dental Predisposition?
- Severity of Sleep Apnea?
- Worse in REM?

Success Rate About 50%
Predicting Outcomes with OA Therapy

Cephalometrics

Endoscopy
Predicting Outcomes with OA Therapy
Predicting Outcome with OA Therapy

• Comprehensive Evaluation
  – Doing it over hours
  – In supine position
  – During sleep
  – Determining success in all stages of sleep
  – Determining success in all positions
  – Predicting patient’s tolerance
  – Limiting the number of studies

• Enter MATRx
Predicting Outcomes with OA Therapy

Inclusion Criteria  N=67

Age ; 21 to 80 y/o
AHI : >10
BMI: <40
Neck Size: < 50 cm
Mean SpO2: >90%
Mandibular Motion : > 5 mm
Adequate Dentition: 10U/10L

Exclusion Criteria

Remmers et al, Sleep 2013
Overall Success Rate: 58.2%
Older Age and Higher ANC predicted Failure

BMI, Neck Circumference or AH1 were not predictive.

Remmers et al, Sleep 2013
Predicting Outcome with Oral Therapy

Predictive Accuracy
- Sensitivity=86%
- PPV= 94%
- Specificity-92%
- NPV=83%

Therapeutic Success with protrusion range
- Minimum= 0.5 mm
- Maximum = 10 mm
- Median successful therapeutic protrusion
  - 68% of full protrusion
  - 79% of full range of motion

Remmers et al, Sleep 2013
OA Assessment Work Flow
Collaborating with Dentist

PATIENT INFORMATION

Patient’s Name: ____________________________

Titration Tray Reference Number: _________ mm

Full Retrusion: _________________________ mm

Habitual Bite: ___________________________ mm

Full Protrusion: _________________________ mm

Are Midlines Aligned? ☐ Yes ☐ No

Comments: _______________________________

_______________________________________

Dentist’s Name: __________________________

Dentist’s Signature: _______________________

Date: _________________________________
OA Titration Flow Chart

Patient Set-up
- Confirm OATRx scale readings provided by the Dentist
- Place MATRx titration tray in patient’s mouth
- Confirm comfort & retention
- Attach MP

Start study at Lower Limit Position *

MP – Mandibular Positioner
OAT – Oral Appliance Therapy

Monitor patient’s sleep behavior
monitor...wait...observe

Observe for obstructive apneas and/or hypopneas

Observe for central events

Promote in 3 x 0.2mm steps (total 0.6mm)

Wait 7 minutes for equilibration (even if events are observed)

Is patient at Upper Limit? (Max Protrusion)

Return to

Mandibular Titration

Reconclusive Study
Physician to determine if OAT is appropriate

Predicted Failure
Mandibular retraction may be necessary

No REM

REMsupine

REMLateral

Predicted Success

RCM Observations
Goal: To Determine If the Patient Meets Interpretive Criteria **
- If patient remains lateral, use judgment/experience to have patient move to supine position
- If patient cannot be treated successfully in REM supine, use judgment/experience to have patient move to lateral position

Notes
* Lower Limit Position – Refer to the MATRx Clinical Applications Guide
Section: The MATRx Study | Titration Considerations

** Interpretive Criteria – Refer to the MATRx Clinical Applications Guide
Section: Clinical Applications | MATRx Interpretive Criteria

- Record the OATRx number (e.g. target protrusive position) in patient’s chart
- Continue titration if time permits
OA Titration Hypnogram
OA Titration PSG Epoch
Success Rate?

- 85-100%
- 70-85%
- 60-70%
- 50-60%
- Less than 50%
Success Rate

• Success rate: 57%

• Similar in men vs. women
Take Home Points

• Predicting accurately is dependent on the definition of success.

• Relying solely on the PSG parameters can be misleading in many cases.

• Remotely controlled mandibular positioner devices have higher predictive accuracy but labor intensive and requires detailed protocol.

• Prior authorization can be a barrier in many cases.

• Collaboration between sleep center and sleep dentists is important for a comprehensive assessment for an optimal patient experience.

• Do not pull patients off CPAP if they are compliant and benefiting.