Matching Patients to Appliance Therapy

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Co-author
Nasopharynx
Oropharynx
Hypopharynx
Nasal Airway
MUSCLES ASSOCIATED WITH TONGUE POSITIONING
GENIOGLOSSUS & GENIOHYOID ARE PRIMARY AIRWAY DILATORS

- Palatoglossus M.
- Styloglossus M.
- Stylopharyngeus M.
- Middle Constr.
- Stylohyoid M. Cut
- Inferior Constr.
- Mylohyoid M.
- Digastric tendon
- Hyoglossus M.
- Hyoid
Mandibular Protrusion
Oral Appliance Types

- **Mono-block articulation** (TMJ)
- **Hinge-based articulation** (TMJ & incisors)
- **Compression-based articulation** (lower canine)
- **Traction-based articulation** (pre-molars & canine)
- **Traction-based articulation** (rear-molars)

Slide courtesy of ResMed
# Materials

<table>
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<tr>
<th>Allergenic</th>
<th>Adjustable</th>
<th>Bondable</th>
<th>Best Feature</th>
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<tbody>
<tr>
<td><strong>Powder/Liquid PMMA</strong></td>
<td>✓</td>
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<tr>
<td><strong>Polycarbonate</strong></td>
<td>✓</td>
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<tr>
<td><strong>Nylon</strong></td>
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<tr>
<td><strong>Processed PMMA</strong></td>
<td>✓</td>
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<td><strong>Cast Metal</strong></td>
<td>✓</td>
<td>yes</td>
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</table>
3D Jaw Position Record
George Gauge

2 and 5 mm forks determine distance between incisors

Simple Measurement
Pro Gauge

6, 9 and 12 mm forks determine distance between incisors

Simple Measurement
3D Bite Tips

Keep Gauge Parallel with Plane of Occlusion
Teeth Lightly in Contact with Gauge
Registration Material Provides Stable Alignment
Keep Natural Midline Alignment
MATRX PLUS

ZEPHYR
Sleep Technologies
WHAT’S COMING?
GREG

45 year old, sought evaluation for snoring and nocturnal gasping

10/21/2010: PSG - AHI 32, supine REM 66       O2 nadir 90%     ODI (4%) 13

Never PAP

2016, PCP convinced him to revisit sleep physician. OA prescribed.
10/21/2016: BP: 142/89  Wishes to avoid medications

12/2016  MATRx plus testing

Oral Appliance Study Prediction:
- Range Of motion (mm): 16 to 17.5
- Range of Motion Tested During Study (mm): 15.9 to 16
- Oral Appliance Outcome Prediction: Responder
- Suggested Therapeutic Protrusion Target (mm): 16.6
- Suggested therapeutic protrusion target (%): 40 %
Patient – Appliance Matching

- Appliance Expectations
- Appliance Design
- Appliance Features
- Physical Dexterity
- Insurance Considerations
- Psychological Concerns
- Treatment History

Know Your Work

Know Your Patient
History

Have They Worn An Appliance Before?
Dexterity / Vision

Can They Make The Adjustments?
Mobility

Can They Open Wide Enough?
Tooth Support

Periodontally Stable?

Enough Teeth?
Retention

Will The Appliance Stay In Place?
Toughness

Will The Appliance Take What They Will Dish Out?
Belief
APPLIANCE CATEGORIES

Boil-n-Bite Custom MAD TRD Other
Tongue Retaining Devices

Easy to Use

Patient Compliance Issues
TRIAL ORAL APPLIANCES
myTAP

- SMALL PROFILE
- READILY REMOLDABLE
- FULLY ADJUSTABLE
- EXTERNAL EXTENSION
- TITRATABLE IN LAB
- MORE MOVEMENT POSSIBLE
- LOW MAINTENANCE
- MOUTH SHIELD PROMOTES NASAL BREATHING
SilentNite

WEAK - NOT FOR BRUXERS
LATERAL CONNECTORS ARE FAIL POINT
OCCLUSION IS NOT STABLE
INEXPENSIVE
SIMPLE
GOOD TRIAL APPLIANCE
EMA
FRAGILE IF NOT MADE WELL
EASY TO ADD VERTICAL
USER FRIENDLY
NO TONGUE SPACE BULK
STRAPS CAN STRETCH, REDUCING
ADVANCEMENT
SLEEP HERBST

CONCERNS ABOUT MECHANISM
WELL TESTED WIDELY AVAILABLE
EASY TO ADJUST
FREE MANDIBULAR MOVEMENT
MINIMAL TONGUE SPACE
INTERFERENCE
GREAT FOR TMD PATIENTS
APPROVED FOR MEDICARE PATIENTS
DORSAL DEVICES

CAN ADD MORE PROTRUSION
RETENTION NOT CRITICAL
VERY GOOD PATIENT ACCEPTANCE
WATCH FOR ASYMMETRIC ADJUSTMENT
THERE ARE MANY SIMILAR DESIGNS
ALLOWS MOUTH OPENING UNLESS ELASTICS ARE ADDED
CAN BE VERY BULKY
ONE SPECIAL DEVICE (ASA) COMBINES WITH INVISALIGN
TAP DEVICES

EASY TO ADD MORE PROTRUSION AND VERTICAL

SOMEWHA T RIGID MANDIBULAR POSITIONING

BEST DEVICE FOR SUPINE-DEPENDENT OSA

NEEDS EXCELLENT RETENTION

VERY GOOD PATIENT ACCEPTANCE

VERY EASY ADJUSTMENTS

CUSTOMIZABLE TO ADD PAP OR MOUTH SHIELD

APPROVED FOR MEDICARE PATIENTS
PROSOMNUS

MILLED PROCESSED METHYL METHACRYLATE

THREE ADJUSTABLE DESIGNS

CAD-CAM

REPRODUCIBLE

PH IS MEDICARE APPROVED
AVANT

SOMNOMED

MILLED HARD SHELL

MILLED SOFT LINER

POLYAMIDE POSITIONING STRAP

ALL DIGITAL WORKFLOW

REPRODUCIBLE
PANTHERA D-SAD

Wide Range of Adjustments
CAD-CAM
Aligned with Occlusal Plane
Easy for Patients to Adjust
One of the Least Bulky Appliances
You Must Master More Than One Appliance

Become Adept at Several
EXCELLENT IMPRESSIONS

3D JAW POSITION RECORD
What About Scans?
Oral Appliance Delivery
Exercises to Gain ROM
Common Elements

Discuss Possible Side Effects
Talk About Cleaning
What Should They Expect
When Should They Return?

Provide Written Materials
Improve Nasal Breathing
Their Bite the Next Morning Will Not Be The Same
MyTAP

Customizable for Comfort
Fully Adjustable
Easy to Refit
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Medicine

SLEEP

Dentistry