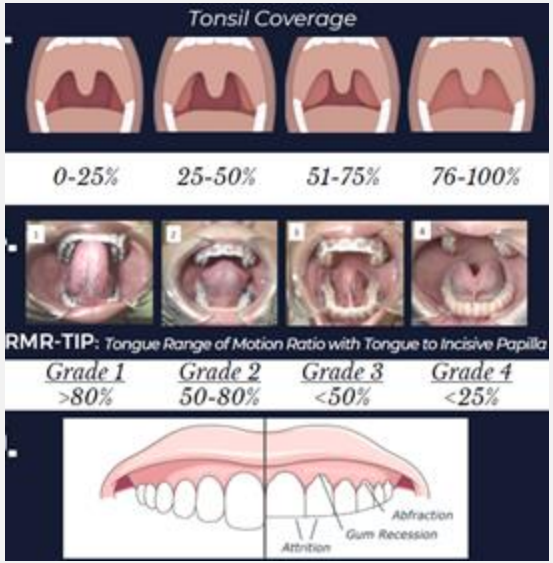
Pilot Program of Orofacial Myofunctional Therapy (OMT) in treating mouth breather related to Obstructive Sleep Apnea (OSA) and allergic rhinitis

Poon CY, Leung YH, Yan FP

Demi Poon

Advanced Practice Physiotherapist
Physiotherapy Department
Yan Chai Hospital



Pediatric OSA in HK

5% of school-aged children in Hong Kong are affected by OSA (estimated by The Chinese University of Hong Kong in 2010)

(Li et. al., 2010)

OSA in Children leads to…

- Learning and behavioral problems
  (e.g. acting hyper or not paying attention)
- Failure to thrive
- Pulmonary and/or systemic hypertension
- Cardiac dysfunction
- Systemic inflammation
- Neurocognitive impairment
- Diminished QOL

(Karakashian, A. R. B, 2017)

Management

Traditional management

- CPAP
- Adenotonsillectomy

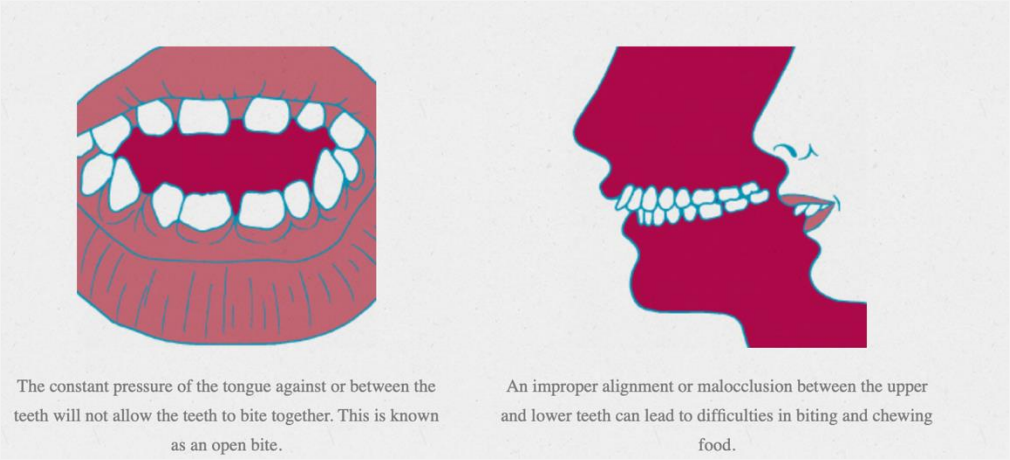
Recent evidence

- Caused by different orofacial myofunctional disorders such as hypotonic tongue, tongue tie and mouth breathing etc.

(Cheng et.al., 2017)

Goals of OMT

- Eliminate poor ***oral habits***
- Establish ***Nasal Breathing*** & achieve ***Lip Competence***
- Activate & tone up ***tongue*** and ***pharyngeal muscles***
- Work on ***Proper*** Posture



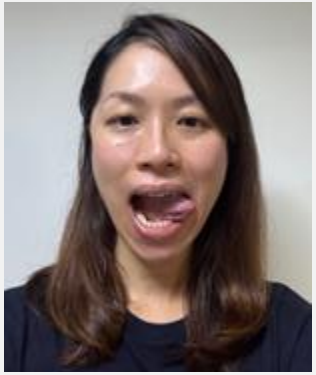
The constant pressure of the tongue against or between the teeth will not allow the teeth to bite together. This is known as an open bite.

An improper alignment or malocclusion between the upper and lower teeth can lead to difficulties in biting and chewing food.

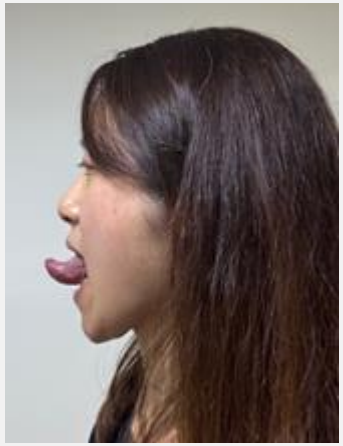
https://aomtinfo.org

Typical OMT Exercises

Waggle spot



Snake



Button Pull

Marshmallow Twist

Program since Nov 2023

01

Pre- Assessment
Distribution of exercise tool

02

F2F/
Tele-consultation

03

F2F/
Tele-consultation

D/C with HA GO exercise video prescription

04

Post- Evaluation

Outcome measures

- Numeric Global Rating of Change Scale (NGRCS)
  - Overall improvement
- Sino-nasal Outcome Test (SNOT-22)
  - A symptom-based rhinosinusitis outcome measure
- Epworth Sleepiness Scale (ESS)
  - Measures the general level of daytime sleepiness
- Average tongue pressure (hPa)
  - Using TPS-100

Results

Overall improvement (Average NGRCS): 60%

- Jan 2024 to Mar 2025
- 40 paediatrics (age range 3-17) and 4 adult (age range 31-59) patients
- 32 of them were discharged and all of them are able to complete the program within 4 sessions.
- Majority of reason for referral: allergic rhinitis.

	SNOT-22	ESS	Average tongue pressure (hPa)
Pre	32.4	8.5	212.6
Post	23.6	6.2	254.0

Symptoms 27%

Sleepiness 27%

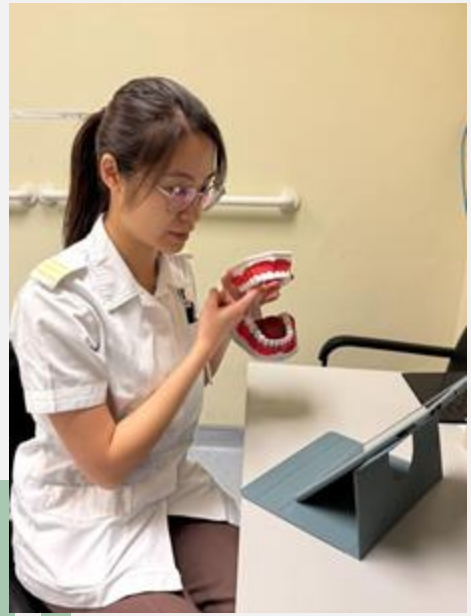
Strength 19.5%

p = 0.049

Conclusion

- Potential benefit to patients with OSA and allergic rhinitis
- Cost-effective
- Improvement in nasal breathing, oral habit and posture
- Parents: patients' snoring is significantly reduced → daytime sleepiness and nasal congestion are reduced
- Better in learning

HA Go Telehealth

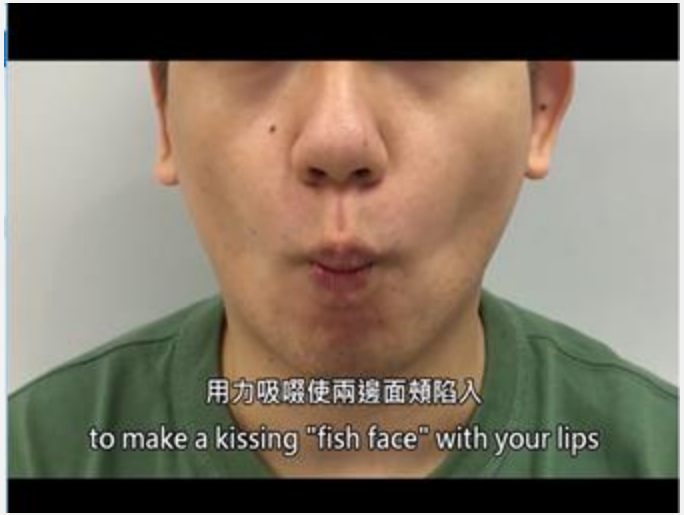


- Tele-consultation provided conveniency
- Not limited by place and time

Borderless

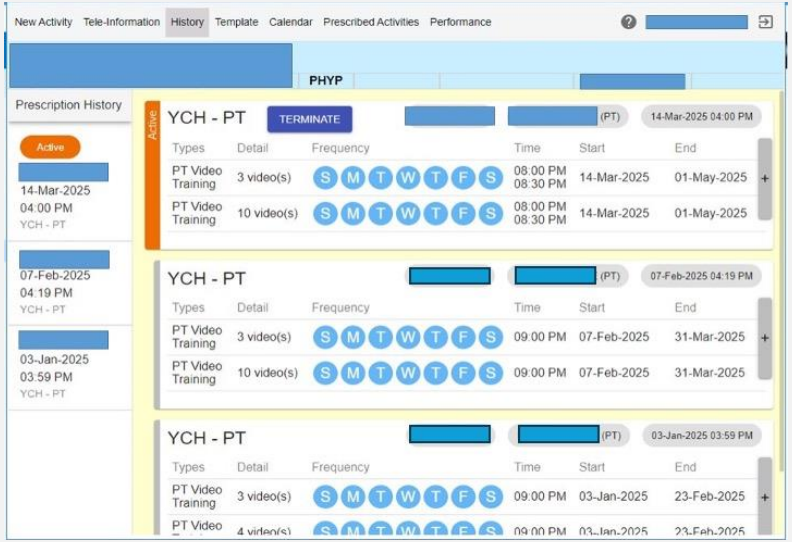
HA Go Prescription

- Home exercise video
- Revise exercise learnt



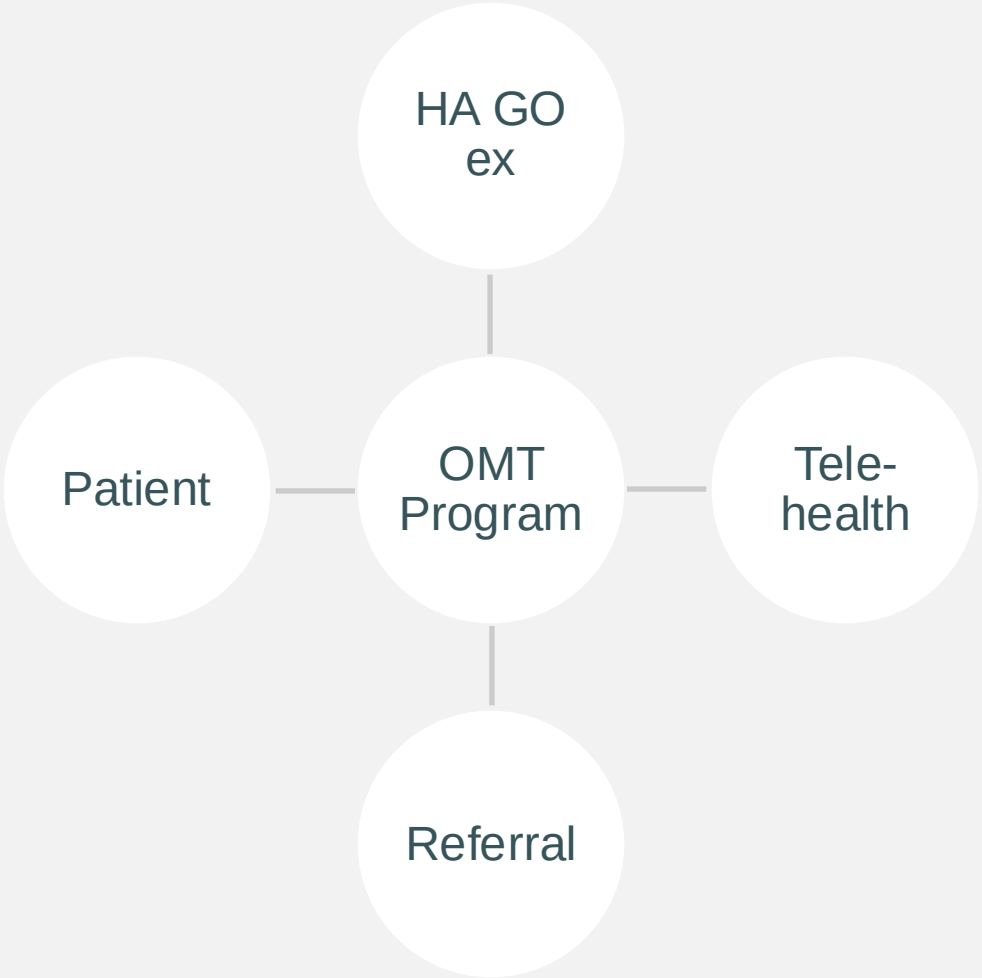
HA Go Prescription

- Smartphone notification
- Easy monitoring



Future Planning

- More outcome measures:
  - Apnea Hypopnea Index (AHI) measured by Belun Ring
- Collaboration program with Department of Surgery in YCH to provide OMT service for obese patients with OSA


HA GO ex
Patient
OMT Program
Tele-health
Referral

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Website of Academy of Orofacial Myofuctional Therapy, https://aomtinfo.org