

# Throat and Jaw Exercise Training to Treat Obstructive Sleep Apnea

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This video was prepared by the Exercise Science Program at South Dakota State University in Collaboration with Dr. Gary P. Van Guilder, Director of the Vascular Protection Research Laboratory.

<http://www.sdstate.edu/hns/undergrad-program/exercise-science.cfm>

<http://www.sdstate.edu/resources/directory/directory-detail.cfm?view=detail&ci=4091>

# *Overview*

These exercises will target muscles of the throat, neck, soft palate and jaw. Performing these exercises properly will strengthen these muscles and help to keep your airway open while sleeping.

We encourage you to complete the exercises most days of the week and follow the 'Sample Exercise Training Plan' at the end of the video.

The following video will demonstrate 17 exercises.

At the end of each exercise demonstration there will be a slide repeating the instructions.

This will be followed by one minute of practice time before proceeding to the next exercise.

# JAW RESIST

- Place hand underneath your chin.
- Attempt to open your mouth as your hand pushes upward resisting the motion of your mouth.
- Repeat this exercise 5 more times and twice a day.

✓ Please practice this now.

➤ Purpose: to strengthen and exercise the jaw muscles.

\* Do not excessively push against jaw. Apply force but stop the exercises if you are experiencing any pain.

# JAW RESIST



# JAW RESIST – Side View



# LIP WORKOUT

- Pucker your lips together as though you're about to kiss someone.
- Hold this position for 10 seconds.
- Repeat this 5 times.
- Now pucker your lips while trying to keep your mouth open. \*don't let your lips touch.
- Hold this position for 5 seconds.
- Repeat this 5 more times.

✓Please Practice this now.

➤Purpose: to exercise, tone and strengthen the jaw and neck muscles.

# LIP WORKOUT

3:02 / 32:52





# TONGUE FORCES

- Forcibly suck your tongue upward until the whole tongue is against your palate.
- Hold this position for 4 seconds.
- Repeat this 5 times.
- Now force the back of your tongue down until the whole tongue is resting on the floor of your mouth.
- Keep the tip of your tongue touching the back of your lower teeth\*.
- Hold this position for 4 seconds.
- Repeat 5 more times.

✓ Please Practice this now

➤ Purpose: To strengthen the tongue and tone your soft palate.

# TONGUE FORCES



# TONGUE SLIDE

- Looking straight ahead, position the tip of your tongue against the back of your top, front teeth.
- Slide your tongue backward.
- Repeat 10 more times.

✓ Please Practice this now.

➤ Purpose: To tone and strengthen the tongue and throat muscles.

# TONGUE SLIDE



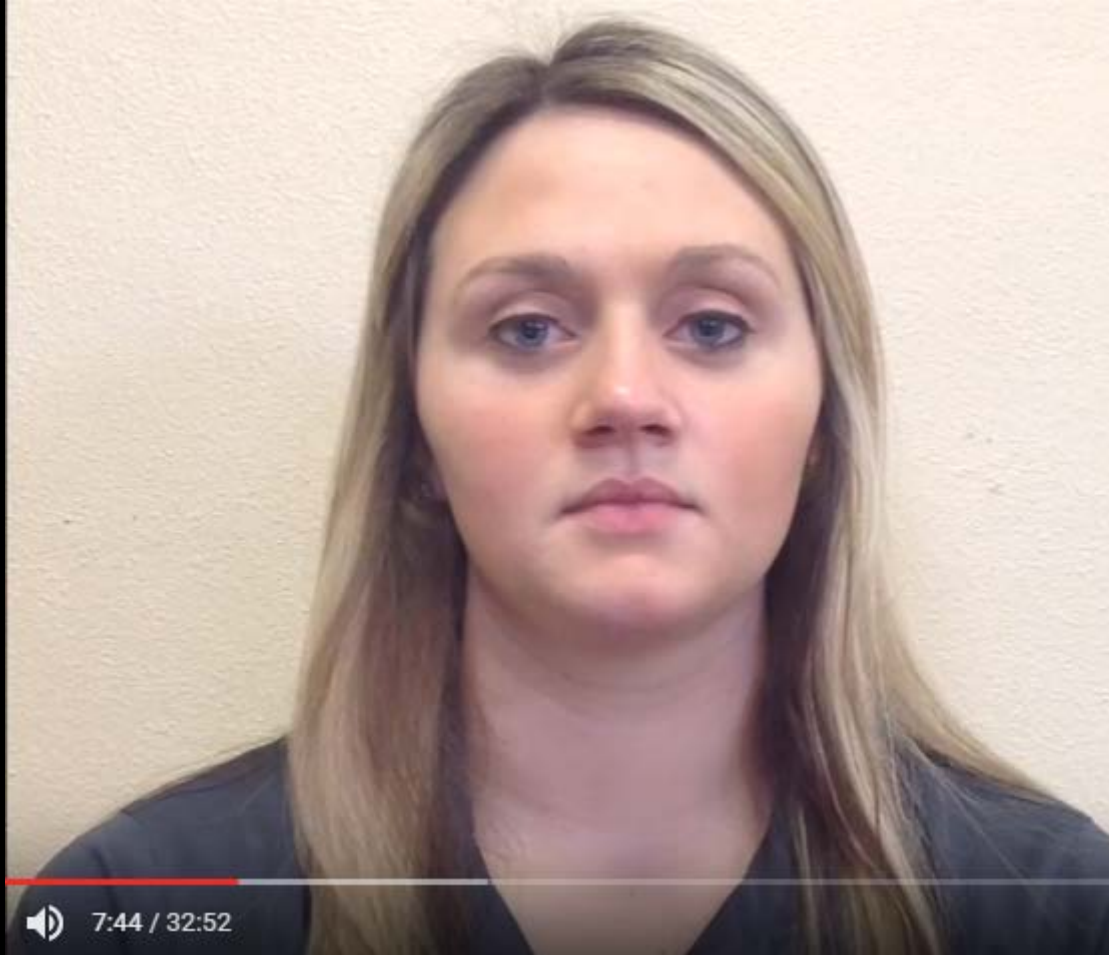
# CHEWING

- \*This is best performed in front of a mirror.
- Close your mouth and pretend that you're chewing a piece of gum.
- Ensure that your molars are positioned slightly apart during chewing; then let them lightly touch together again.
- While you chew make a “mmm” sound. The sound will enable your throat to open. Check that your mouth remains closed in the mirror.
- Chew for 10 Seconds. Repeat 3 Times.

✓Please Practice this now.

➤Purpose: To strengthen and tone the muscles in the back of your throat and to strengthen the jaw muscles.

# CHEWING



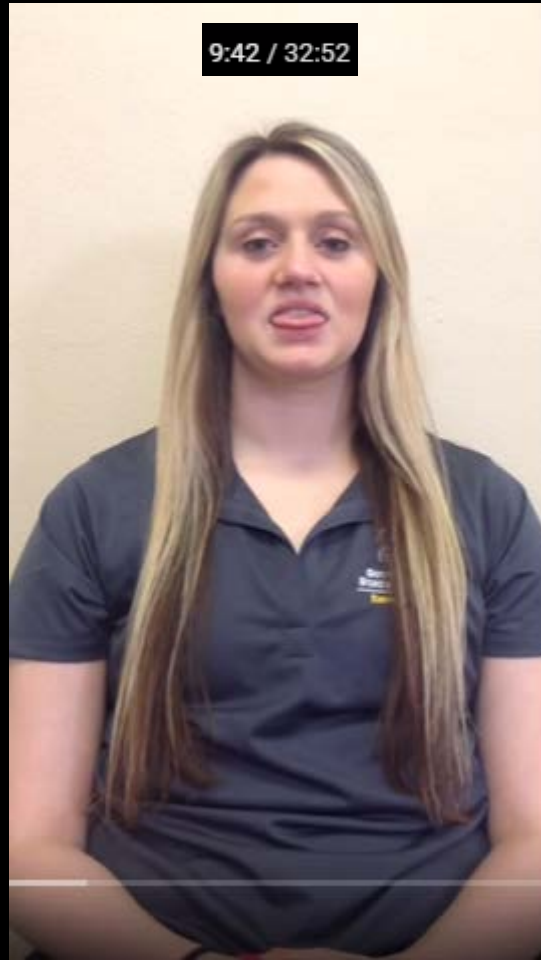
# TONGUE CLENCH

- \*This is best performed in front of a mirror.
- Place your tongue between your teeth and gently bite down and hold the tongue in position.
- Now swallow 5 times in a row.
- Repeat swallowing 5 more times and repeat this 4 times a day.

✓ Please Practice this now.

➤ Purpose: To strengthen and exercise the muscles at the back of your throat.

# TONGUE CLENCH



Swallow 5 times while tongue is clenched



# A SMILE A DAY

- \*This is best performed in front of a mirror.
- Keep your mouth shut and make exaggerated smiles.
- Hold the smile for 5 seconds. Repeat this 10 more times.

✓ Please Practice this now.

➤ Purpose: To tighten and strengthen your neck muscles.

# A SMILE A DAY



Hold your nice smile for 5 seconds

# FINGER IN CHEEK

- Open your mouth, place your first finger inside your cheek.
- Push your finger so that your cheek moves outward while contracting the cheek muscles to resist the pushing of your finger.
- Repeat this 10 more times for each cheek, repeat 4 times a day.

✓ Please Practice this now.

➤ Purpose: to strengthen your facial and throat muscles. Improve the resistance of the buccinator and orbicular muscles. Better closure of the mouth will be gained. Many Obstructive Sleep Apnea patients breath via their mouth. This exercise will help improve nasal breathing.

# FINGER IN CHEEK



# GOING UP

- Start with your chin resting on your chest with your mouth closed.
- Place the tip of your tongue behind your top teeth.
- Slowly start to look at the ceiling.
- Slide your tongue from behind your teeth to the back of your mouth.
- Once your tongue reaches the back of your mouth lift it up, move it back to the front.
- Hold this position for 10 seconds and then bring your head down to neutral position.
- Repeat this 10 more times.

✓ Please Practice this now.

➤ Purpose: to tone and strengthen the muscles in the front of your neck and your tongue muscles.

# GOING UP

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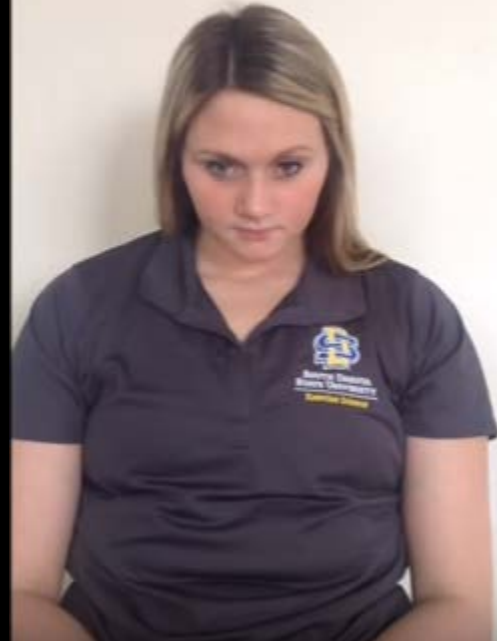
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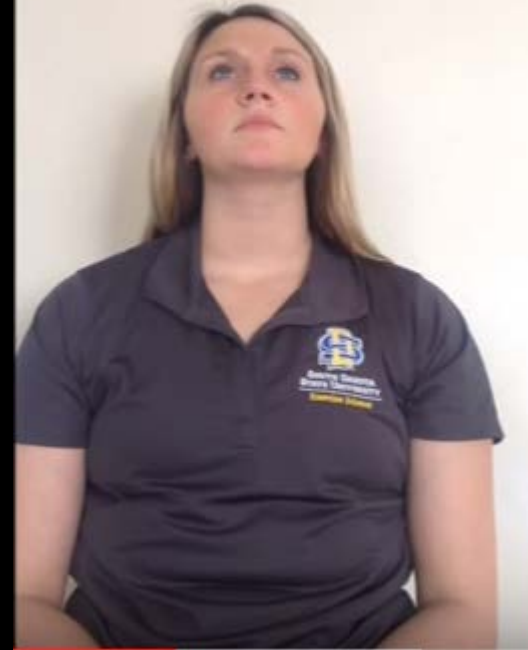


3



4

14:16 / 32:52



# CEILING SWALLOW

- Bring your head right down so your chin is resting on your chest.
- Open your mouth wide sticking your tongue out as far as possible.
- Gently bite down on your tongue while lifting your head up towards the ceiling.
- When you reach the top, looking up at the ceiling and with your tongue sticking out, you need to swallow and repeat this 5 more times.

✓ Please Practice this now.

➤ Purpose: The swallowing action lifts the trachea and the throat muscles contract, exercise and tone.

# CEILING SWALLOW

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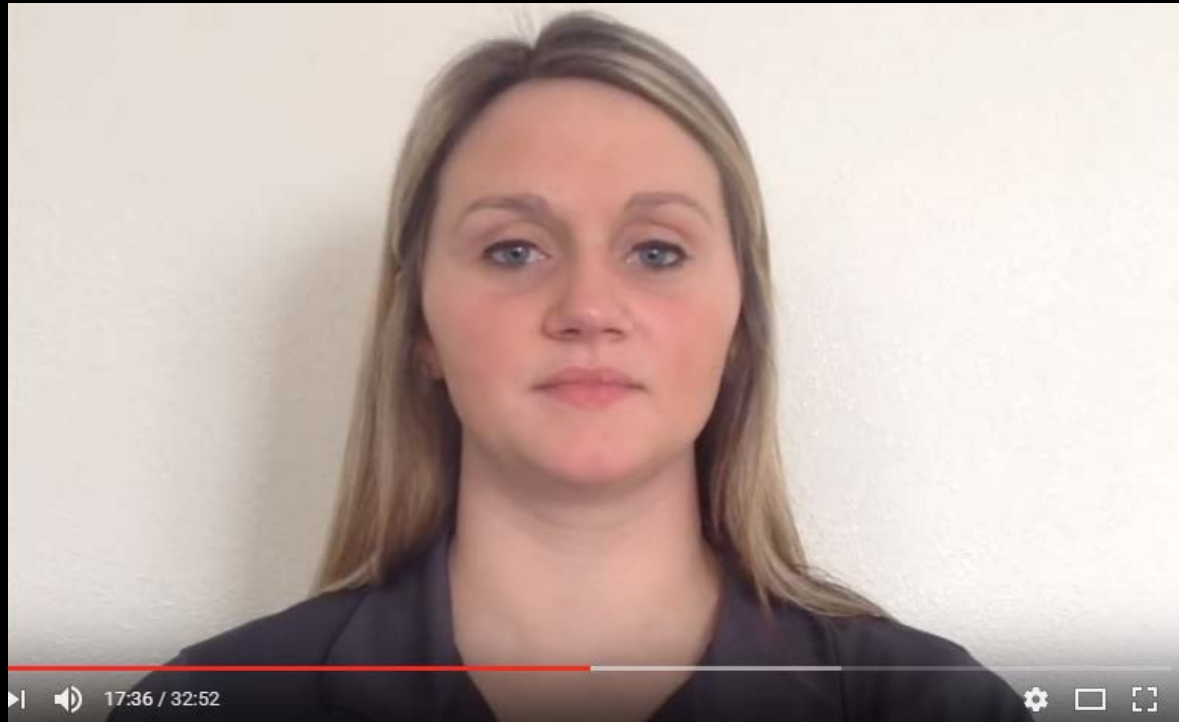
# REACH FOR THE CEILING

- Lift your head up as high as you can, looking at the ceiling.
- Stick your tongue out and upward, as though you're attempting to touch the ceiling with it.
- Hold the tongue in this position for 10 seconds and repeat 5 more times.

✓ Please Practice this now.

➤ Purpose: Your trachea will be lifted upward, your throat muscles will contract. All the muscles in the front of your neck are exercised and stretched when the trachea is elevated. Your tongue will remain in a neutral position rather than slipping back inside your throat- and blocking your airway.

# REACH FOR THE CEILING



# TIGER YELL

- Open your mouth as wide as possible, and stick your tongue out in a downward position. Your tongue needs to be stuck out as far as possible.
- The uvula needs to be lifted upwards as you stick your tongue out.
- The mirror is used to ensure that you're lifting the uvula up correctly. You'll soon begin to sense that you've lifted it and won't require the mirror.
- Hold the lifted uvula for 5 seconds and repeat 10 more times.

✓ Please Practice this now.

➤ Purpose: to exercise and strengthen all the muscles in the back of your throat.

# TIGER YELL



# THE “A” VOWEL

- Your tongue needs to face downward and stay inside your mouth.
- Clearly say the vowel “A” sound. Hold the sound for 5 seconds. It should sound like “ahhh”.
- Attempt to push your tongue down and keep it there.
- Repeat this exercise at least 10 more times and 4 times a day

✓ Please Practice this now.

➤ Purpose: to exercise the tongue and soft palate muscles.

# THE “A” VOWEL



Say 'Ahhhh'  
for 5 seconds

# VOWEL PRONUNCE TAION

- Standing in front of a mirror, begin pronouncing your vowels.
- Go through all of them, (A,E,I,O,U) and really exaggerate the movement of your mouth.
- Observe yourself in the mirror and ensure you're forming the vowel sounds by stretching your mouth.
- Slowly repeat each vowel 5 times.

✓ Please Practice this now.

➤ Purpose: to stretch your mouth and throat muscles-and exercise your soft palate.

# VOWEL PRONUNCEAION





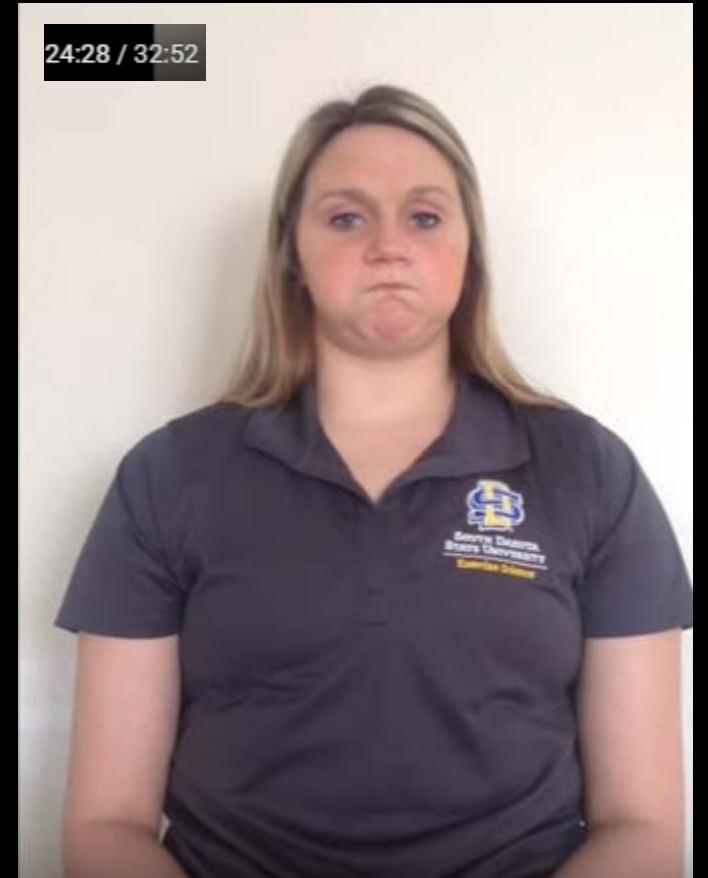
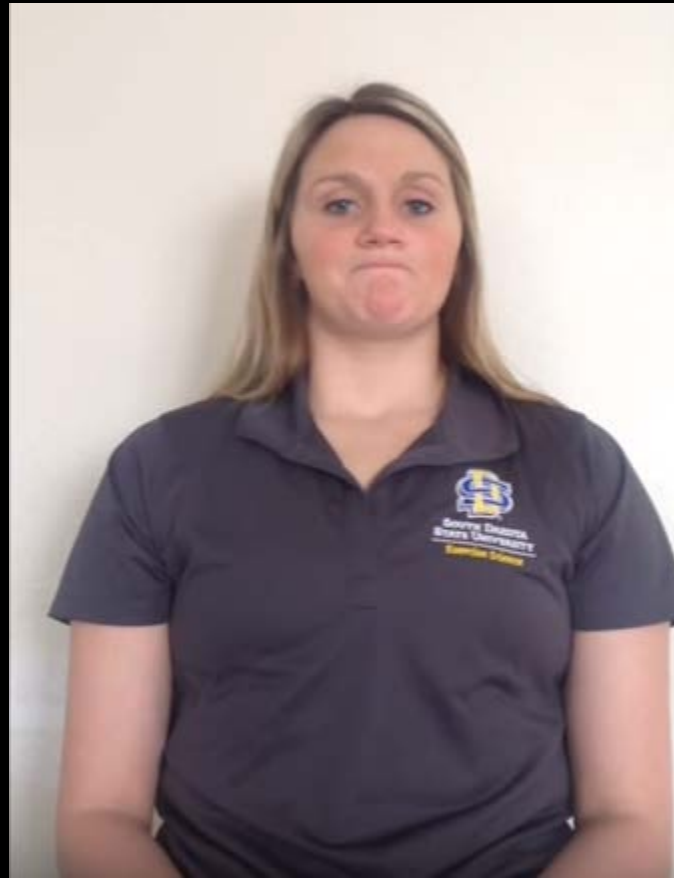
# SOFT PALATE BLOWING

- Inhale air through your nose, exhale through your mouth while keeping your lips pressed together.
- When you exhale tighten your abdomen.
- Maintain your blowing for 5 seconds.
- Repeat this pattern at least 10 more times and repeat this exercise 4 times daily.

✓ Please Practice this now.

➤ Purpose: The soft palate and uvula are elevated during this exercise. The elevation process is exercising the muscles of your throat. The Pharynx will expand and be enlarged. The respiratory system is also being trained in this exercise.

# SOFT PALATE BLOWING



# TONGUE WORKOUT

- Open your mouth wide and stick your tongue out
- Try to touch your chin with the tip of your tongue.
- When your tongue is at a full stretch hold it there for 5 seconds.
- Repeat this 10 times a day.
- Now, try to touch your nose with your tongue.
- When your tongue is at full stretch hold it there for 5 seconds.
- Repeat this move 10 times daily.

✓ Please Practice this now.

➤ Purpose: To exercise and strengthen the tongue muscles, and to exercise the throat and jaw muscles.

# TONGUE WORKOUT



# TONGUE PRESS

- Push your tongue against your hard palate.
- Do this for 5 seconds then slide your tongue backward to the back of your mouth.
- At least a third of your tongue needs to be against your hard palate not just the tip of your tongue.
- Keep your jaw open through this exercise and refrain from biting down.
- Repeat this move 10 more times and 4 times a day.

✓ Please Practice this now.

➤ To strengthen the genioglossus and to increase the strength in the hyoid muscles and bone.

# TONGUE PRESS





# Sample Week 1

Day 1 Week 1	Day 2 Week 1
A Smile A Day (10 times)	Soft Palate Blowing (10 times)
Chewing (3 times)	Vowel Pronunciation (5 times)
Lip Workout (5 times)	Tongue Workout (10 times)
Jaw Resist (5 times)	Lip Workout (5 times)
Tongue Slide (10 times)	A Smile A Day (10 times)
Finger In cheek (10 times)	Chewing (3 times)

- ❖ The number of times you need to perform the exercise is shown in parenthesis next to the exercise.
- ❖ Repeat all exercises twice a day.



# Sample Week 2

Day 1 Week 2	Day 2 Week 2	Day 3 Week 2
The "A" Vowel (10 times)	Jaw Resist (5 times)	Tongue Press (10 times)
Tiger Yell (10 times)	Tongue Clench (5 times)	Vowel Pronunciation (5 times)
Tongue Press (10 times)	Tongue Workout (10 times)	Reach for the Ceiling (5 times)
Going Up (10 times)	Soft Palate Blowing (10 times)	Tongue Clench (5 times)
Tongue Slide (10 times)	Ceiling Swallow (5 times)	Tiger Yell (10 times)
Finger in Cheek (10 times)	Tongue Forces (5 times)	Tongue Slide (10 times)

- ❖ The number of times you need to perform the exercise is shown in parenthesis next to the exercise.
- ❖ Repeat all exercises twice a day.

# Sample Week 3

Day 1 Week 3	Day 2 Week 3
Ceiling Swallow (5 times)	Finger in Cheek (10 times)
Tongue Forces (5 times)	Reach for the Ceiling (5 times)
Going Up (10 times)	Tongue workout (10 times)
The "A" Vowel (10 times)	Soft Palate Blowing (10 times)
Lip Workout (5 times)	Vowel Pronunciation (5 times)
Chewing (3 times)	Jaw Resist (5 times)
A Smile A Day (10 times)	Going Up (10 times)

- ❖ The number of times you need to perform the exercise is shown in parenthesis next to the exercise.
- ❖ Repeat all exercises 3 times a day.

# Sample Week 4

Day 1 Week 4	Day 2 Week 4	Day 3 Week 4
Tongue Clench (5 times)	Finger In cheek (10 times)	Tiger Yell (10 times)
Tongue Forces (5 times)	Reach for the Ceiling (5 times)	Ceiling Swallow (5 times)
Tiger Yell (10 times)	Going Up (10 times)	Soft Palate Blowing (10 times)
The "A" Vowel (10 times)	Lip workout (5 times)	Vowel Pronunciation (5 times)
Ceiling Swallow (5 times)	Tongue Workout (10 times)	Chewing (3 times)
Tongue Press (10 times)	Tongue Press (10 times)	Tongue Clench (5 times)
A Smile A Day (10 times)	Tongue Slide (10 times)	Tongue Forces (5 times)

- ❖ The number of times you need to perform the exercise is shown in parenthesis next to the exercise.
- ❖ Repeat all exercises 3 times a day.

# Sample Week 5

Day 1 Week 5	Day 2 Week 5
Reach for the Ceiling (5 times)	Tongue Clench (5 times)
The "A" Vowel (10 times)	A Smile A Day (10 times)
Finger in Cheek (10 times)	Soft Palate Blowing (10 times)
Jaw Resist (5 times)	Tiger yell (10 times)
Lip workout (5 times)	Jaw Resist (5 times)
Tongue Workout (10 times)	Tongue Forces (5 times)
Tongue Press (10 times)	Tongue Slide (10 times)
Chewing (3 times)	Going Up (10 times)

- ❖ The number of times you need to perform the exercise is shown in parenthesis next to the exercise.
- ❖ Repeat all exercises 3 times a day.

# Sample Week 6

Day 1 week 6	Day 2 Week 6	Day 3 Week 6
Vowel Pronunciation (5 times)	Ceiling swallow (5 times)	Tongue Clench (5 times)
Reach for the Ceiling (5 times)	The "A" Vowel (10 times)	Vowel pronunciation (5 times)
Lip Workout (5 times)	Tiger Yell (10 times)	Lip Workout (5 times)
Tongue Press (10 times)	Finger In Cheek (10 times)	Soft Palate Blowing (10 times)
Soft Palate Blowing (10 times)	Jaw resist (5 times)	Tongue Press (10 times)
Chewing (3 times)	Tongue workout (10 times)	Tongue Slide (10 times)
Tongue Slide (10 times)	Going Up (10 times)	Reach for the Ceiling (5 times)
A Smile A Day (10 times)	Tongue Forces (5 times)	Tongue Workout (10 times)

- ❖ The number of times you need to perform the exercise is shown in parenthesis next to the exercise.
- ❖ Repeat all exercises 3 times a day.

# Sample Week 7

Day 1 Week 7	Day 2 week 7	Day 3 Week 7	Day 4 Week 7
Ceiling Swallow (5 times)	Tiger Yell (10 times)	The "A" Vowel (10 times)	Finger In Cheek (10 times)
Jaw resist (5 times)	Reach for the Ceiling (5 times)	Ceiling Swallow (5 times)	Tongue Clench (5 times)
Going Up (10 times)	Finger in Cheek (10 times)	Jaw resist (5 times)	Vowel Pronunciation (5 times)
Chewing (3 times)	Tongue Clench (5 times)	Tongue Workout (10 times)	Tiger Yell (10 times)
Tongue Slide (10 times)	A Smile A Day (10 times)	Chewing (3 times)	A Smile A Day (10 times)
Tongue Forces (5 times)	Vowel pronunciation (5 times)	Tongue Forces (5 times)	Lip Workout (5 times)
The "A" Vowel (10 times)	Going Up (10 times)	Tongue Slide (10 times)	Going up (10 times)
Tongue Press (10 times)	Soft Palate Blowing (10 times)	Reach for the Ceiling (5 tmes)	Tongue Workout (10 times)

❖ The number of times you need to perform the exercise is shown in parenthesis next to the exercise.

❖ Repeat all exercises 3 times a day.

# Sample Week 8

Day 1 Week 8	Day 2 Week 8	Day 3 Week 8
The "A" Vowel (10 times)	Vowel Pronunciation (5 times)	The "A" Vowel (10 times)
Ceiling Swallow (5 times)	Tiger Yell (10 times)	Tongue Forces (5 times)
Tongue Clench (5 times)	A smile A day (10 times)	Lip Workout (5 times)
Chewing (3 times)	Reach for the Ceiling (5 times)	Vowel Pronunciation (5 times)
Tongue Forces (5 times)	Tongue Workout (10 times)	Tongue Press (10 times)
Lip workout (5 times)	Going Up (10 times)	Tongue workout (10 times)
Jaw Resist (5 times)	Tongue Slide (10 times)	Soft Palate Blowing (10 times)
Tongue Press (10 times)	Ceiling Swallow (5 times)	A Smile A Day (10 times)
Soft palate Blowing (10 times)	Finger in Cheek (10 times)	Jaw Resist (5 times)

- ❖ The number of times you need to perform the exercise is shown in parenthesis next to the exercise.
- ❖ Repeat all exercises 4 times a day.

The websites on the following page will give you more information on Sleep Apnea as well as treatment and exercise options.

Thank you for doing your exercises.

Go Jacks!





# Resources

*American Sleep Apnea Association.* <http://www.sleepapnea.org/>

*Mayo Clinic*

Sleep Apnea. <http://www.mayoclinic.org/diseasesconditions/sleepapnea/basics/definition/con-20020286>

*National Sleep Foundation*

Sleep Apnea. <https://sleepfoundation.org/sleep-disorders-problems/sleep-apnea>

*National Institutes of Health*

National Heart Lung and Blood Institute

What Is Sleep Apnea? <http://www.nhlbi.nih.gov/health/health-topics/topics/sleepapnea>