

A **Breath** of Health



DR. INGO MAHN

“Mouths are to humans,
what roots are to plants”



Dr. Felix Liao

Author of:

*"Licensed to Thrive" and
"Six Foot Tiger, Three Foot Cage"*



"I dreamed I got eight hours of sleep."

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Introduction

From the moment we are born, our health and ability to survive depend on a properly functioning mouth and airway. As Dr. Felix Liao, my mentor who has studied issues with these structures for over 35 years, so eloquently states, they are indeed our roots.

You're probably reading this book because you suspect you may have a problem with your "roots". Unfortunately, this is not an area that either doctors or dentists are trained to look at.

As I completed my training to become an AMD (Airway Mouth Doctor) and learned to look for the signs of impaired breathing and sleeping, it began to dawn on me just how prevalent these problems are.

Just hinting at the subject with a patient often elicits a response of "Yes, I know!" Yet, they have had no one to turn to for help.

On the other hand, many of my patients who exhibit the signs of airway problems, tell me they think they are just fine. Invariably though, they also have all of the **symptoms** of impaired breathing and no idea the two were related.

That is the purpose of this easy to read book. To help you determine if you have a hidden underlying problem that is either contributing to a persistent health issue or preventing you from feeling your best.

Let's get started!



Ingo Mahn, DDS, AIAOMT
Doctor of Integrative Medicine
Airway Mouth Doctor

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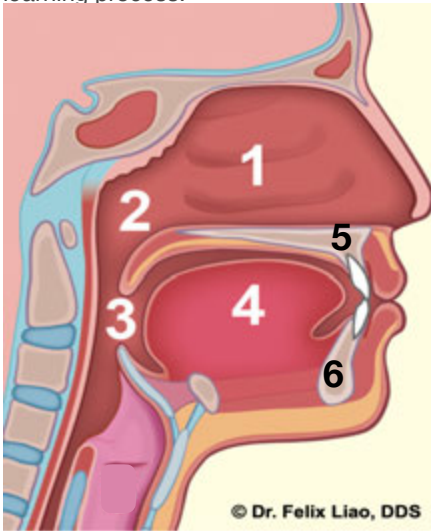
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Some Quick Terminology and Anatomy

"Everything should be made as simple as possible, but no simpler." - Albert Einstein

I hate to throw human anatomy at you right off the bat, but if you can visualize a cross section of the spaces we will be talking about, it will greatly help in the learning process.



The Functional Airway Spaces

- 1 - Nasal Cavity
- 2 - Nasal Pharynx
- 3 - Oral Pharynx
- 4 - Oral Cavity

The Significant Bony Structures

- 5 - Maxilla (Upper Jaw)
- 6 - Mandible (Lower Jaw)

That's it! These spaces and structures are our roots. They serve to nourish us with oxygen and nutrients. Just as with plants, when fully developed, we **thrive!** If functioning improperly, they can also become the root cause of many of our health problems.

With the use of our state-of-the-art imaging equipment, we look at each of these areas carefully - **they are the key to your health.**

I also have another piece of imaging equipment that just got a major upgrade - **my eyes!** There is a saying that "Your eyes only see what your brain knows". I couldn't agree more. Sadly, I have been LOOKING at these airway problems for almost 40 years. Fortunately, with the newfound knowledge from my airway training, I am finally SEEING them!

What Can Be

With rare exceptions, all of us are born with the genetic blueprint to have fully developed airway structures.

Dr. Weston Price, a dentist in the 1930's, proved this with his extensive research on societies that had never been exposed to refined foods and sugars. None of these cultures even knew what a dentist was, **yet they all had perfectly formed airways, jaws and teeth.** As soon as a Western diet was introduced, he saw crowded teeth, decay and compromised airways.

That is the problem, we live in a society where everything works against us being the best possible version of ourselves. It's as if you had the architectural plans for a beautiful, spacious house, but due to lack of materials and skilled labor end up with a little shack.

Epigenetics is the study of how your behaviors and environment can cause changes that affect the way your genes are expressed.



When a child is born with:

- A tongue tie - due to mom's low functioning thyroid
- Bottle-fed - due to the tongue tie (or doctor's recommendation)
- Has crowded teeth - due to being bottle-fed
- Has teeth extracted for braces - due to crowded teeth
- Eats the SAD (Standard American Diet) high in sugar, gluten and dairy

There is literally **NO** chance that the structures in the head and neck can reach their full potential.

The good news is, that **that original blueprint still exists** in the double helix of your DNA.

We will get into more details about treatment in a later chapter, but through the use of Epigenetic Oral Appliances (which stimulate your stem cells), we can still get your DNA to express a better version of yourself.

Contrary to popular wisdom, this can be achieved even in adults!

America, We Have a Problem!

If you live in America and are trying to be healthy, the odds are not in your favor. Fluoridated water, insane vaccination schedules, a polluted food supply, bombardment with EMFs ... and that's just the start of the list! It's no wonder that despite spending more money per capita on "health-care" than any other nation, we are still one of the sickest.

From an evolutionary design, our bodies were simply not designed to deal with such a constant level of stress. For the most part though, we are still incredibly resilient if given enough time to "Rest & Repair".

Unfortunately, Americans are spending very little time in a state of recovery. Recent studies show that 83 million of us suffer from some form of Obstructive Sleep Apnea (OSA) - that's almost 40% of the adult population!

There are two things that make this situation **even worse** than it sounds:

1. Approximately 80% of those 83 million cases remain undiagnosed.
2. This number does not even consider milder airway disorders.

Breathing disorders fall into a spectrum. You don't just go to bed one night and turn into a Sleep Apnea patient. This can be problematic, because milder cases of obstructed breathing are much more difficult to diagnose. At this point the body is still able to adapt and compensate to the obstruction, meaning a sleep study will still show the patient to be in the "normal" range.

I've had many of my patients tell me that, despite knowing they have sleep issues, their sleep study said everything was normal.

Apparently in the conventional medical world you are considered "normal" until you need a CPAP machine!



DOCTOR I'M TIRED ALL THE TIME



Conventional medicine sees OSA very much as a “Black or White” issue. Either you have it or you don’t. When you look at it as a continuous spectrum though, things start to make much more sense.

There are two conditions that fall between Ideal Breathing and Sleep Apnea:

1. IFLB - Inspiratory Flow Limited Breathing
2. UARS - Upper Airway Resistance Syndrome

Reading their names gives you a clue as to what is happening.

When airflow becomes restricted, the body simply compensates by exerting more effort to maintain the required level of airflow. At this stage, a sleep test would consider things to be normal ... **THEY ARE NOT!**

In fact, some very dramatic physiological changes take place when your body is under the impression that it will be deprived of oxygen - **think of it as water boarding without the water!**

The body goes into a sympathetic (fight or flight) state and releases cortisol. This in turn raises blood sugar and initiates **a system wide inflammatory response.**

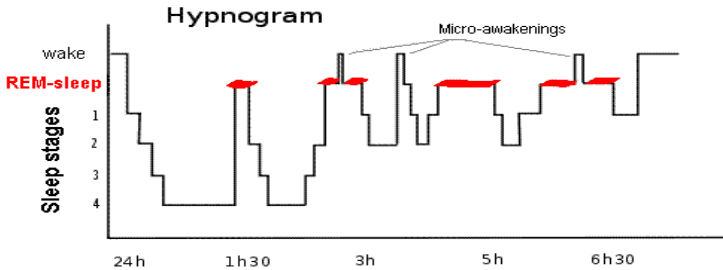
Imagine this happening night after night! And as if that wasn’t bad enough, you are also not getting the benefits of regenerative sleep.

Until you breathe well, you can’t sleep well.

More on that next ...

Breathing Disordered Sleep

Sleep is NOT a passive process. Our bodies are healing and detoxifying and our brains are storing memories and balancing neurotransmitters.



Above is a Hypnogram that shows the different levels of sleep.

During the first part of the night, we fall into a deeper state of sleep. During this quieter period our body temperature drops, heart rate and breathing slows and our muscles relax. This critical process allows for physical regeneration of our body. Failure to reach this level of sleep results in increased inflammation and reduced immune function. The result? A myriad of physical ailments. In fact, recent studies have linked breathing induced sleep disturbances to fibromyalgia and even cancer!

The second part of the night is a lighter level of sleep known as REM (Rapid Eye Movement). Restorative sleep during this time of night (when we dream), has been shown to facilitate learning, improve memory and enhance emotional health. Neurotransmitters and stress hormones are also balanced during this time and failure to sleep during this part of the night may lead to increased anxiety, phobias and depression.

When you realize the detrimental effects even slight airway obstructions can have on your sleep, you begin to understand that your health is at stake!

Do I Have a Problem?

There are a number of advanced diagnostic tools we have at our disposal to determine if you have an airway / sleeping problem.

Even without those, it is relatively easy to make an assessment based on signs and symptoms. Look at the form below and see how many conditions apply to you. Remember though, even just ONE may be an indicator of an airway problem

Impaired Mouth Syndrome Score

by Dr. Felix Liao, DDS, Author of [Six-foot Tiger, Three-foot Cage](#)

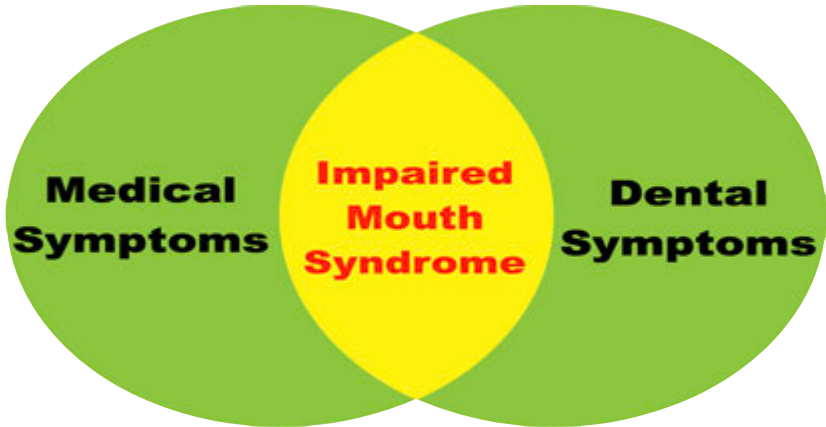
Mouth	Score	Body	Score
Snoring, morning dry mouth	0 1	Gasping or choking in sleep	0 1
Teeth grinding, jaw clenching	0 1	Neck, shoulder, or back pain; headaches	0 1
Mouth breathing, chapped lips	0 1	Erectile dysfunction or PMS	0 1
Persistent/wandering dental sensitivity	0 1	High blood pressure, heart disease	0 1
Gum recession and/or redness	0 1	Diabetes type 2, bloating after meals	0 1
Clicking/locking jaw joints, zigzag jaw opening	0 1	Weight gain, pot belly; acid reflux	0 1
Morning headache and/or sore jaws	0 1	Daytime sleepiness, fatigue	0 1
Deep overbite or underbite (weak chin)	0 1	Senile memory, ADD/ADHD	0 1
Frequent cavities or broken/chipped teeth	0 1	Frequent colds, flu, and skin disorders	0 1
Teeth prints on the sides of the tongue	0 1	Obstructive sleep apnea from a sleep test	0 1
Bony outgrowth on palate or inside lower jaw	0 1	Stuffy/runny nose, scratchy/itchy throat	0 1
Sunken lips and reverse smile curve (sad)	0 1	Forward head: ears ahead of shoulders	0 1
History of teeth extractions for braces	0 1	Waking up to urinate more than once	0 1
Bulge under lower jaw, double chin	0 1	Large neck size (M>17, W>15)	0 1
History of lots of dental work + medical symptoms	0 1	Poor digestion and elimination	0 1
Malocclusion (crowded teeth)	0 1	Depression, anxiety, grouchiness	0 1
Total Score		Total Score	

Closely look at the above graphic. All of the signs and symptoms are warning signs of an obstructed airway, the ones highlighted in yellow are the most common. We use this questionnaire in conjunction with other diagnostic tools.

Often, a patient will insist that they sleep well and not even be aware that they are grinding and clenching their teeth in their sleep. All it takes is one quick look in the mouth with a trained eye. Crowded and worn teeth, large tori (bony growths on the jaw) and sore TMJs (jaw joints) quickly tell a different story.

The point is, as an Airway Mouth Doctor, it is my job to look beyond the teeth and determine if there are any oral contributions to any health problems you may be having.

I can't even tell you how many patients I have seen that have been from doctor to doctor, and dentist to dentist without any resolution to their symptoms. The mouth, it appears, is in medical "no man's land".



If based on your symptoms and our preliminary evaluation we suspect an airway problem to be at the root cause, it's time to do a more thorough investigation.

Think of this first step as a blood pressure screening. It only tells us that there may be a potential problem, but not what it is. The same is true in this case. **Our next step will be to recommend a 3D Jaw Diagnostic evaluation to determine what's off, where and by how much.**

But first, the WHY!

The True Problem

I first learned about the connection between proper breathing and health issues in 2015. Years went by and even after going to dozens of courses and workshops, I found myself unable to implement an airway program into my practice. All those courses had one thing in common. They all focused on the mandible (lower jaw).

Their final solution was always to pull the jaw forward by means of an appliance (which messes up the jaw joints), doing a full mouth reconstruction (expensive!!) or performing orthognathic surgery (breaking the jaw - ouch!).

None of these solutions actually fixes the problem!

Here's why. The lower jaw is NOT the problem. The true problem is the maxilla (upper jaw).

As Dr. Liao puts it: "It's like in ballroom dancing, the upper jaw leads and the lower jaw follows."

All of a sudden everything made sense.

It's all about putting the upper jaw in the right place. Then the lower jaw can find it's proper place and the tongue has enough room so that it does not get displaced back into the airway.

It's been quite a learning journey to get to this point. I am happy to have found a treatment that I know to be effective and can confidently recommend to my , friends and family. As a matter of fact, I am currently going through the program myself (Hey, I want to breathe and sleep better too!)



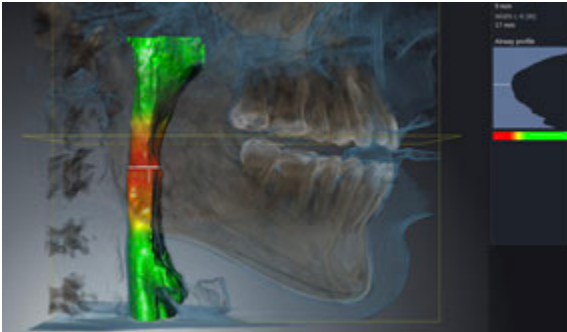
3D Jaw Diagnostics®

After the initial screening, this appointment is the first step in getting a true picture of what's going on in your mouth. We determine what's off, where and by how much.

We use this thorough assessment, to develop a proper treatment plan.

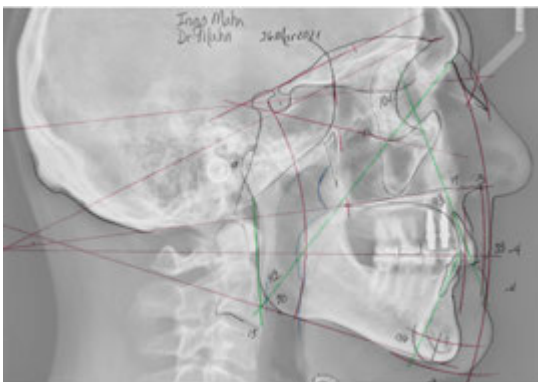
Here are the records we take:

1. A **3D CBCT** image (usually already taken at your NP appointment).
 - ◆ Used to analyze airway, nasal structure such as the turbinates and sinuses as well as the spine



2. A **Cephalometric x-ray**

- ◆ Sent for analysis to determine the relationship of skeletal structures as well as the anterior / posterior position of the upper jaw. That's me below.



3. A **3D optical scan** (instead of messy impressions)

- ◆ Used to create a model that allows us to analyze the width of your jaws and can also be used by the dental laboratory to fabricate an appliance



4. A **“Construction bite”** - a registration of your bite where the jaw **wants** to be

- ◆ Used to create an appliance that properly positions your jaw

5. **Photographs**

- ◆ Of both your teeth as well as you standing in front of a posture grid

6. CSI - **“ChairSide Investigation”**

- ◆ Find out more about your overall health symptoms

7. Information for **Ares home sleep study**

- ◆ An easy to do 2 night home sleep study that is evaluated by a board certified sleep physician - includes a 12 month follow up study

In some cases we may also suggest the need to work with other practitioners. These may include:

1. Chiropractor / Cranio-Sacral specialist
2. Physical Therapist
3. Allergist (Food & environmental)
4. Dietician

We will also be happy to work with any specialist you are already seeing. Our goal is to be a part of your health-care team that helps you achieve optimal health.

“Oral health is more than healthy teeth.”

**David Satcher, MD, US Surgeon General
Oral Health America 2000**

Treatment

The good news is, once we have your diagnostic records to evaluate your mouth, we also have all the records we need to move forward with treatment.

This treatment can vary considerably from patient to patient. One patient may have good skeletal structures and only require elimination of allergy provoking foods. Another may have severely deficient jaws that may require 2-3 years of therapy.

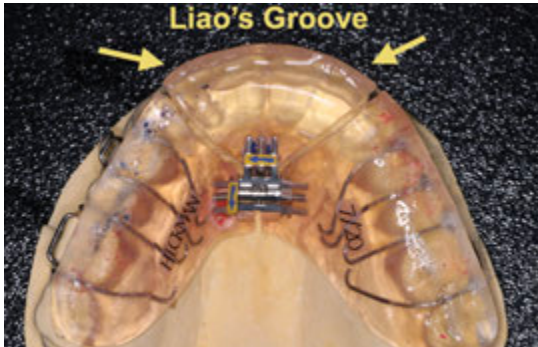
We never know for certain until all 3D Jaw Diagnostic records are taken and analyzed.

If appliance therapy is necessary, the device you will be using is very similar to an orthodontic retainer.



Dr. Felix Liao with the Start Thriving Appliance he invented

The appliance is designed to apply a specific amount of pressure to stimulate the stem cells to produce more bone. It is essentially an orthopedic appliance (meaning it moves bone) rather than an orthodontic appliance that only moves the teeth.



Because it is designed to give your lower jaw a comfortable place to rest (in Liao's Groove), this appliance immediately makes patients breathe and feel better. It is more comfortable than a Mandibular Advancement appliance and WAY more tolerable than a CPAP.

If you are already a CPAP user, we recommend you DO NOT discontinue its use! This appliance can be worn in conjunction with your CPAP. Stay in communication with your current sleep physician about if and when to transition off your CPAP.

Important Note:

With the use of an orthopedic oral appliance we are moving both the bone as well as the teeth. That means you will notice your bite changing as well as the shifting of teeth (most commonly opening of spaces due to expansion). **This is a good thing and exactly what we are trying to achieve!** At the end of your treatment we may need to refine the position of the teeth through the use of orthodontics (usually clear aligners). The fee for orthodontics is NOT included with your initial therapy, but will be made available to you at our office for a substantially reduced cost of \$2,500 (*reg. \$5,500*).

Frequently Asked Questions

At this point you probably have a whole slew of questions - this section should answer most of them.

How many hours a day does the appliance need to be worn?

Ideally 16 hours a day. Wearing it more will not necessarily speed up the process, but wearing the appliance less than 16 hours will prolong treatment.

Is the appliance uncomfortable?

No, you should quickly get used to your new prosthesis. In fact, because of the immediate benefits (such as reduction in pain and improved sleep), most patients don't want to part with after they start using it.

Are there any side effects?

Some patients report an increase in salivation with the appliance in place. This usually subsides after a short time.

Can I talk while wearing the appliance?

It varies between individuals, but your speech will be affected. The good news is that the appliance can be easily removed during times when it is important for you to communicate clearly.

How long will the treatment take?

Anywhere from 9 - 30 months. There is no way to determine the length of treatment until the information from the 3D Jaw Diagnostic appointment has been evaluated. Treatment time also greatly depends on the level of compliance.

Is any other treatment necessary?

In some cases we will need to work in conjunction with other practitioners. A minor surgical treatment to release a "tongue tie" is frequently necessary. This can be done right in our office using a laser.

Do I need to change my diet?

Possibly. Even though chances are that you already eat well, you will be given information on adding the specific nutrients needed to build the bone required to expand your jaw and airway.

What Will All This Cost?

Fees can vary widely depending on the complexity of your case. We will go over the fees for your case at a consultation after your 3D Jaw Diagnostic appointment,

In general, fees range from **\$3,950** for a Start Thriving Appliance (STA) to around **\$9,500** for a complex case requiring jaw expansion and multiple appliances. There may also be some additional fees for surgical procedures done in our office (such as a tongue tie release) or at the office of an oral surgeon (such as removal of bony tori).

In all cases we will communicate all of the fees to you in advance so there will be no surprises.

Is This Covered By Insurance?

Insurance companies are always challenging to deal with, **especially** when it comes to newer, cutting edge treatments. This is especially true in the area of adult orthodontics and sleep apnea related devices. For this reason insurance will mostly likely not cover treatment using these advanced epigenetic oral appliances.

We do however offer a number of options to make treatment affordable for you.



Final Thoughts

I can't even begin to tell you how excited I am to be able to offer this service to you.

It's hard to believe that it has taken the dental profession this long discover airway issues to be at the root cause of so many medical problems. It all makes perfect sense though once your eyes are opened.

It has taken a substantial investment in both time and equipment to be able to get to the point, so it is understandable why so many dentists are reluctant to go down this path.

I also understand that this will require a substantial investment on your part.

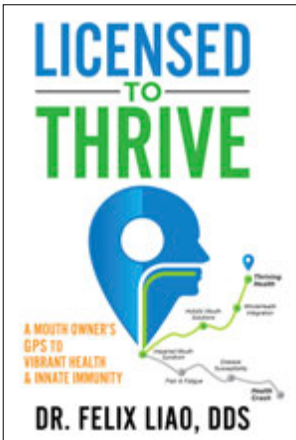
This program is not for everyone, but I know that if you share our philosophy of achieving optimal health, you don't just want to put a Bandaid® on the problem, you want to fix it!

In the long run, the benefits you reap from better health will be well worth it!



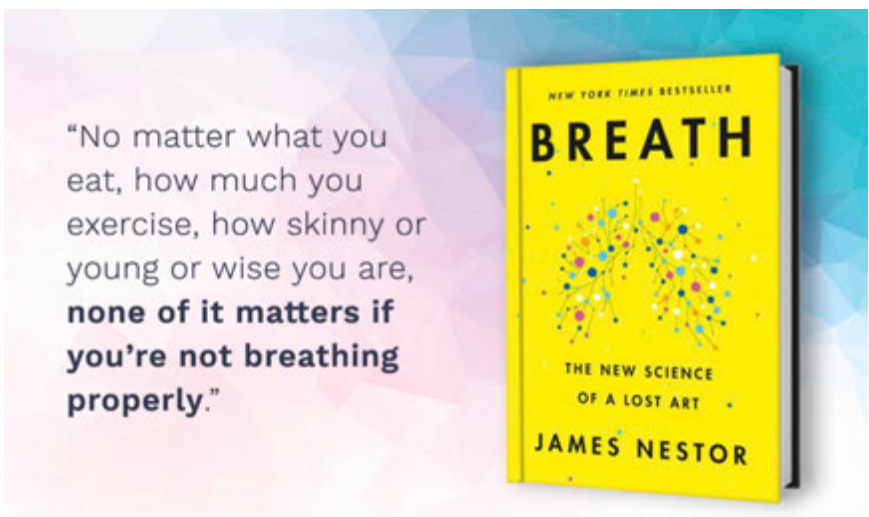
Recommended Reading

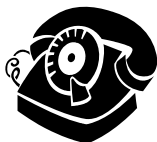
This book is only designed to give a brief overview of our airway program. If you want to learn more, the books below are an excellent place to start.



You can get both of these books at our office or on Amazon. A copy of *Licensed to Thrive* is included when you start treatment. It is also available on Amazon (Free if you have a Prime membership).

Breath is a well written and extremely informative book by James Nestor.





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Breathe Better

Sleep Better

Feel Better!

Your health depends on oxygen and proper breathing.

Discover how the inability to do so properly leads to poor sleep and a chronic state of inflammation.

Despite being fundamental to your well-being, the airway is an area ignored by doctors and dentists alike.

Is it impacting your health? As an Airway Mouth Doctor, Dr. Ingo Mahn can help you find out and get you on the path to optimal health.



Dr. Ingo Mahn, DDS, AIAOMT

Marquette University School of Dentistry '85

Doctor of Integrative Medicine

Airway Mouth Doctor