

# SNORING CAN BE CURED.

Not funny. Not hopeless.

## **Laser Snoring Centre**

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# Why Do Some People Snore?



- The throat has no rigid supports
- Throat muscles hold the airway open
- All muscles relax in deep sleep  
(snorers' throat muscles relax more than others)
- The airway collapses when you breathe in
- Snoring is due to partial airway obstruction
- The throat flutters, making noise

# Why Do Only Some People Snore?



- Most snorers have a **normal** throat
- But some snorers' throats are "too saggy"

Low soft-palate

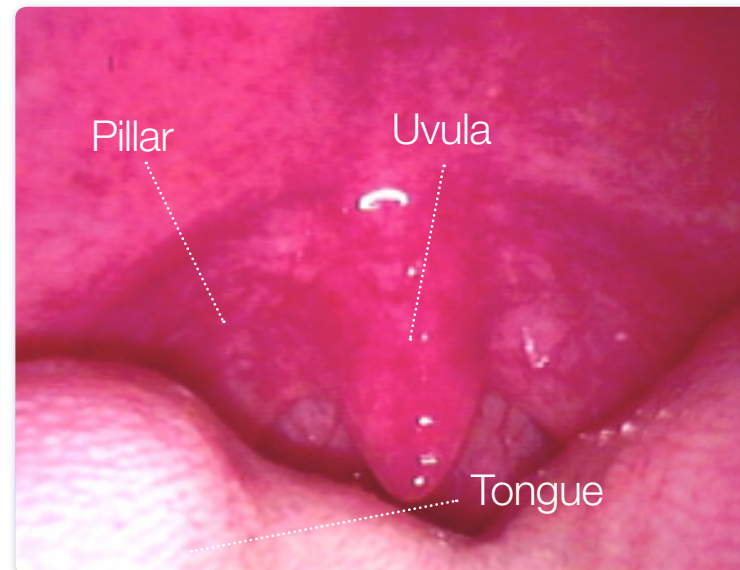
Thick uvula (the little thing hanging down)

Large or saggy tonsils

Floppy or low pillars

Large tongue base

This is how I see the throat with a tongue depressor.



# What About Weight?



Snoring is more common in overweight patients because:

- They require increased effort in breathing
- Wider, shorter necks tend to compress the throat

**BUT** not all snorers are overweight, some are healthy, fit individuals.

# Is There A Typical Snorer?



These 3 patients **were** all loud snorers.

# Why Do Only Some People Snore?



*in GASTRONOME nach dem Mittelalter*  
198. Gastronomy after Luncheon: a snoring gourmand, 1805 (from 75)

- In snorers, the throat muscles relax too much when asleep
- It's worse with sedation from:
  - Alcohol
  - Sleeping tablets
- Some snorers are just “unlucky”



# Why Do Some People Snore?



## Other factors include:

- Snoring can often be the result of aging
- **A Blocked nose** can often result in snoring
- Snoring is worse for people who lie flat on their back

# Some Snoring Facts.



- 30% of men snore
- 20% of women snore
- There are over 300 patented devices in the US for combatting snoring
- Guinness Book of Records - The loudest recorded snore was 87 decibels
- Surgery for snoring - UPPP - 1981

Laser Palatoplasty - 1993

Radio-frequency Palate stiffening - 1997



# Problems For Snorers.

- Their partner can't sleep and may leave the room, only to still hear the snorer!
- May result in marital problems
- Holidays - no spare room for the snorer to sleep
- In small apartments - neighbours can complain
- Embarrassing situations for snorers;
  - Aeroplanes
  - Theatre
  - Church
  - Lectures
  - Sharing a room on business trips
  - Camping
  - Sleep-overs and Slumber parties
  - New bed-partners

# It Is Worse For Women.

- Perceived as “unladylike” - embarrassing
- Girls get teased at slumber parties
- Single women will be embarrassed if they fall asleep “afterwards”



# Obstructive Sleep Apnoea (OSA).



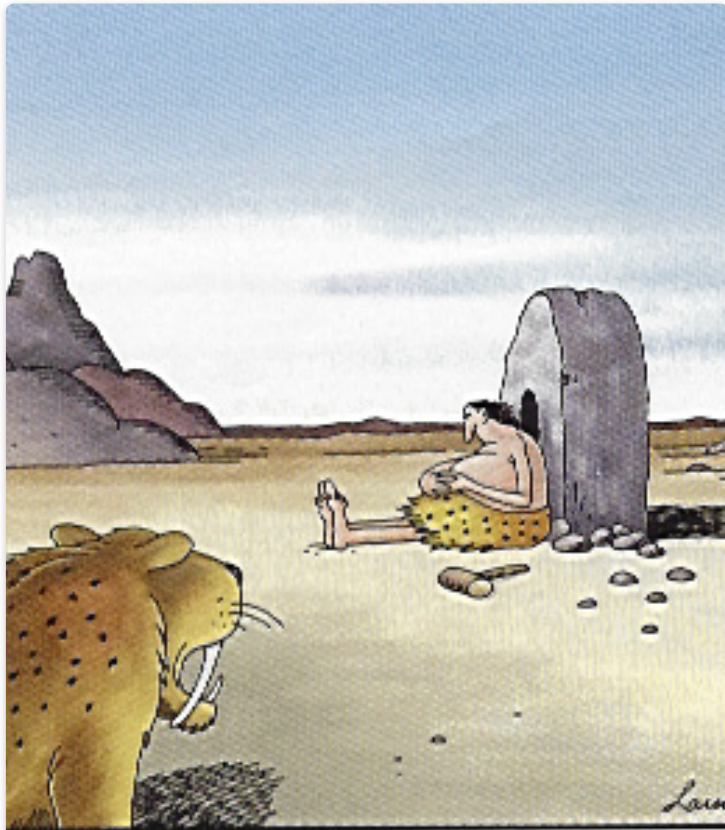
- (Pronounced “Ap-knee-ah”)
- Snoring is due to partial airway obstruction
- OSA is due to intermittent complete airway obstruction
- Some patients’ throats collapse repeatedly during sleep causing intermittent suffocation
- Breath-holding can last between 10 seconds (mild) - 60 seconds (severe)
- Episodes can occur 10 - 60 times an hour
- Arterial oxygen level can drop
- Oxygen desaturation”, “hypoxia”
- Severe OSA is dangerous

# Obstructive Sleep Apnoea (OSA).

- Snoring - Partial airway obstruction & flutter
- OSA - intermittent Complete airway obstruction



# OSA Arousal From Sleep.



Thag Anderson becomes the first fatality as a result of falling asleep at the wheel.

- Restlessness
- Bed-wetting
- Sleep deprivation
- Daytime tiredness
- Morning headaches
- Memory problems
- Impotence
- Increased risk of heart attack, stroke, and death.



# Overnight Sleep Study Poly-Somno-Gram (PSG)



- Overnight non-invasive test by a Sleep Physician
- One night in hospital
- Required to diagnose Sleep apnoea
- Not every snorer needs testing
- Need to test if - Partner notices obstructions  
or - there is significant daytime tiredness

# Treatment Options For Snoring.



- Avoid sedatives and alcohol
- Treat nasal blockage
- Breathe - right strips, 'Nozovent'
- Sprays - (beware of long-term side effects)
- Surgery is often required
- Weight loss

- Posture - Sleep on your side

Sew or clip a tennis ball into pyjamas (to avoid sleeping on your back.)

Snoring pillow

Elbow in the ribs (worth a try)

- Dental devices - (pull lower jaw forwards)
- CPAP Mask



# CPAP Machine

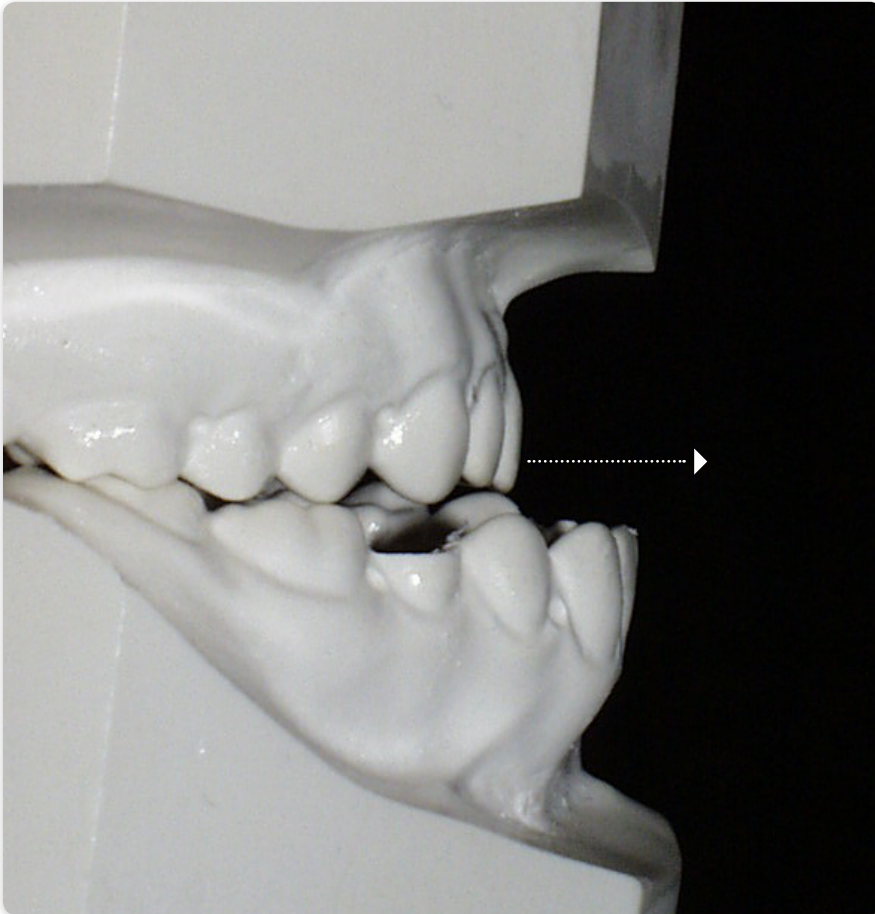


- Continuous
- Positive
- Airway
- Pressure

# CPAP

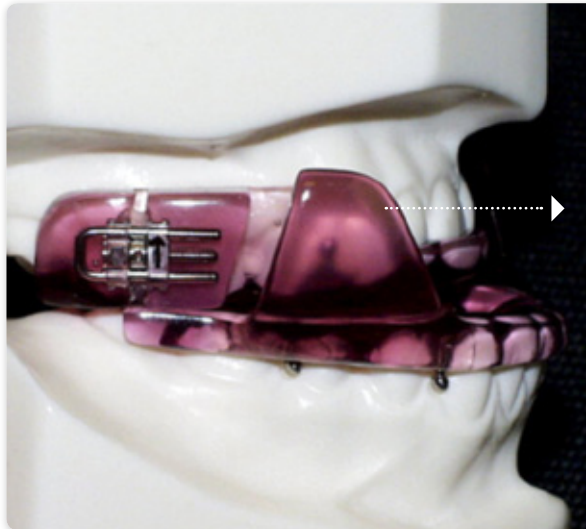
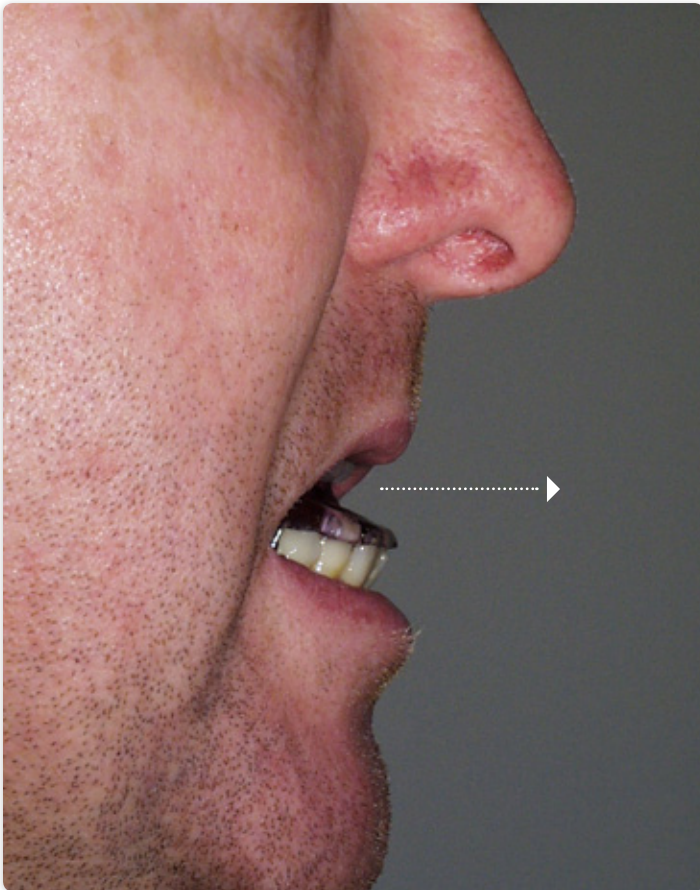
- Fitted face mask
- The pump has a soft noise
- Blows air through the nose
- Creates internal “air splint”
- Holds the soft tissues of throat open
- Very effective treatment - even for severe OSA
- Note this is not comfortable, or romantic
- Safe, painless, no operation

# Mandibular Advancement Splint



- Pulls the lower jaw forwards
- Pulls the tongue forwards
- Must be worn every night
- Whilst effective it can be uncomfortable
- Takes time to adjusting to device

# Mandibular Advancement Splint



# Removal Of Tonsils And Adenoids



- Very effective for children whose snoring and OSA is due to large Tonsils and Adenoids
- Effective for severe OSA
- (The Adenoids are like Tonsils in the back of the nose. They usually shrink away during puberty)



# Principles Of Surgical Treatment Of Snoring And OSA

**There are 3 levels of obstruction:**

- Saggy Palate
- Blocked nose
- Collapsing or full tongue base

# Principles of Surgical Treatment

## 1. Saggy Palate

- can be stiffened or trimmed
- stops the flutter
- makes more space

## 2. Blocked Nose

- deviated septum can be straightened

## 3. Tongue base problems

- more complicated to fix



# Palate Stiffening

- Stiffening the soft palate stops the flutter
- It doesn't create more space, so it's not effective in moderate or severe Sleep Apnoea.
- These are simple procedures performed in a dental chair, with local anaesthetic. There is no pain and no time off work required.
- BUT - This procedure is not covered by Medicare or Private insurance.

This is less effective than surgery and less effective if the nose is blocked.

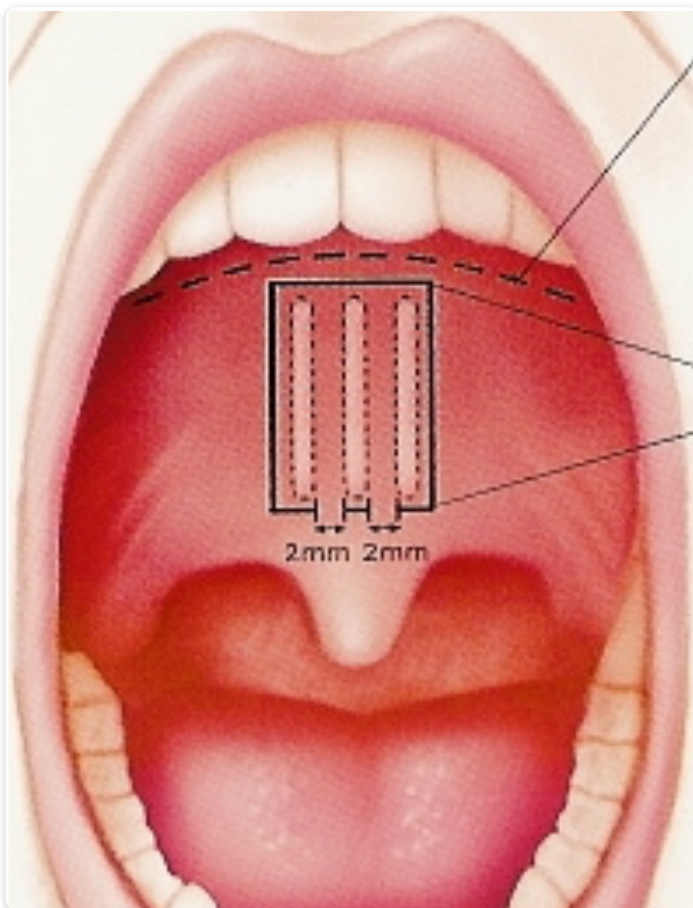
- If this procedure fails, the palate can still be trimmed.

# Radio-Frequency Palate Stiffening



- “Micro-wave” needle probe into the soft palate
- “Cooks” the muscle in 4 places to make scar
- The scar can be quite stiff
- A second treatment is done after 6 weeks
- 60% of bed-partners are satisfied
- **BUT** it’s not covered by Medicare or Private insurance

# Pillar Implant Palate Stiffening



- Insert 3 little “rods” into the soft palate with an “injection” needle/gun
- One-session only
- Similar to a dentist visit
- More effective than Radio-frequency
- 75% of bed-partners are satisfied
- BUT – it’s more expensive as you need to pay for the 3 implants, in addition to fees.
- It’s **not** covered by Medicare or Private insurance

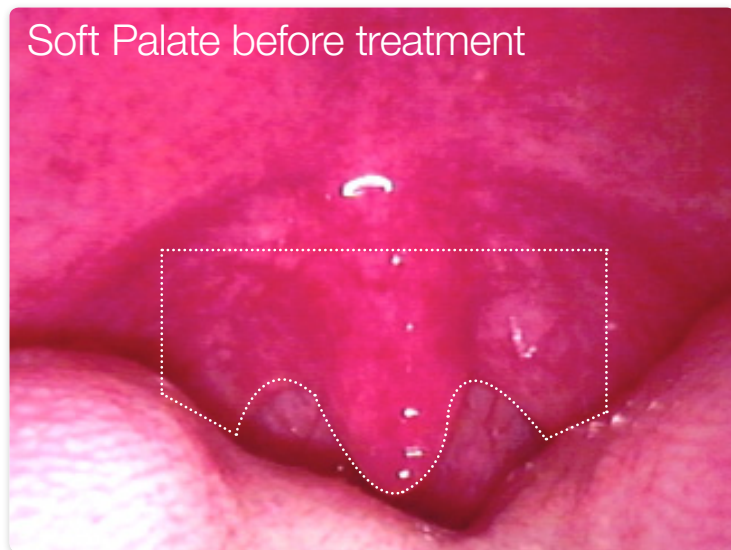
# Palate Trimming



- “Laser” or “Plasma-knife” Palatoplasty
- 2 different machines will perform a similar exercise in trimming the fluttering edge of the soft palate, INCLUDING removing the uvula.
- This is the most common treatment prescribed for snoring and Sleep Apnoea
- This treatment is often combined with Nasal Surgery

# My One-Stage Technique Of Laser Or Plasma-Knife Palatoplasty

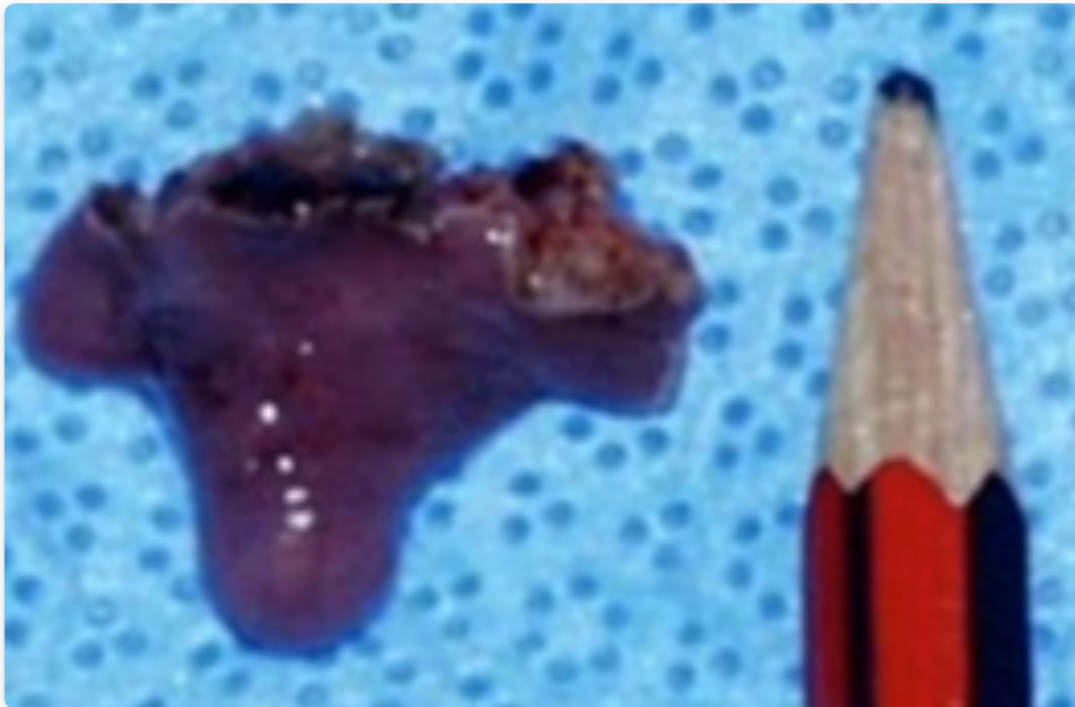
These are the views of the throat that I see with a tongue depressor:



Trim off the uvula and the vibrating edge of the soft palate with a Laser.

# My One-Stage Technique Of Laser Palatoplasty

This is what gets removed. The pencil is just a guide for you, showing the size of what's removed.



# Laser Or Plasma-Knife Palatoplasty



- Trim the uvula and the posterior pillars
- Removes the fluttery fringes either side of the uvula
- 2 dissolving sutures help widen the gap
- Performed under a 30-minute general anaesthetic
- Requires 1 night in hospital
- Can be performed for day patients
- You will need about 5-7 days off full-time work
- If you also require nasal surgery you will need 5-10 days off full-time work (about 50% of my patients also need nasal surgery).



# Laser Or Plasma-Knife Palatoplasty

## Post-Operatively Little Pain



- May numb the nerve endings
- Minimal pain for the first few days
- Moderate pain for the next few days (similar to a large ulcer).
- We will provide you with gargles, lozenges, and Panadeine Forte.
- Occasionally the pain is severe and may require antibiotics and cortisone tablets to reduce swelling
- Morphine is rarely prescribed

# Results Of Laser Or P-K Palatoplasty



- 80% success rate (a satisfied bed-partner)
- Results vary if patient has OSA, due to generalised floppiness (so I rarely recommend it for significant OSA).

# Uvulo-Palato-Pharyngo-Plasty



- Also Called UPPP, UP3, Full PPP
- Remove tonsils and uvula, trim the palate, and suture
- Full UPPP are rarely performed
- Less painful operations work just as well
- Most patients don't need tonsil removal, as the Laser or P-K Palatoplasty provides sufficient treatment.
- Large tonsils need to be removed, but the Uvula can then be preserved – a Modified PPP
- If the tonsils are large, M-PPP is very effective
- I now use a Coblator or Plasma-Knife dissector to remove the tonsils, resulting in less bleeding and less pain for the patient.

# Can I predict success?

## Not always



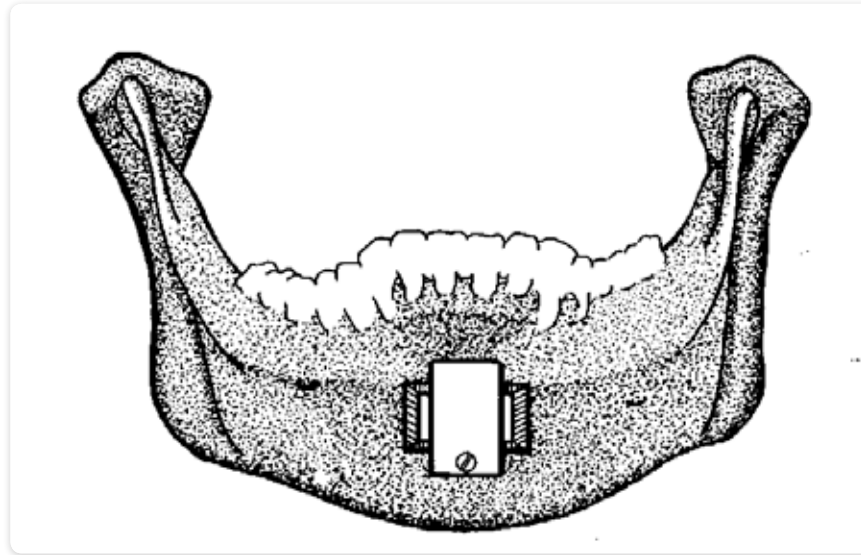
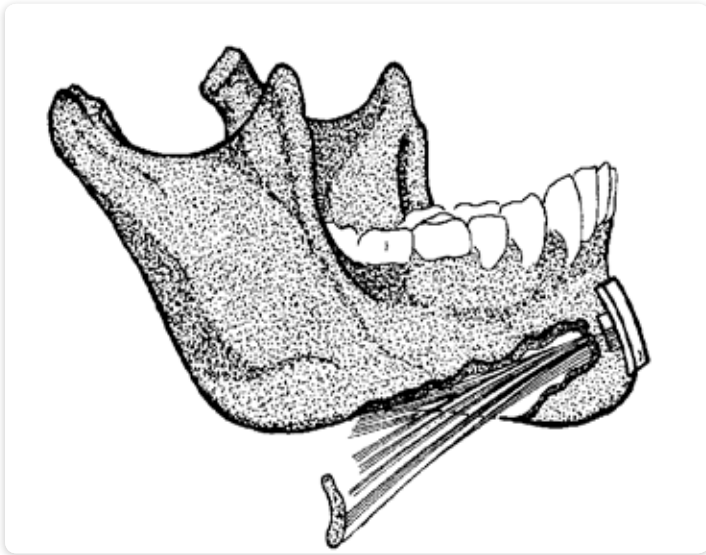
This overweight male has a small mandible and full tongue. Mild OSA should not have been cured with a LaserPP. In this case, it was a success!

# What About The Tongue Base?



- Tongue base surgery is sometimes required for a patient whose nose/palate operation has failed
- Their problem is usually due to the tongue base/back of throat region

# Tongue Base Advancement



- Pull tongue base forwards
- Genioglossus advancement
- Plus Hyoid advancement

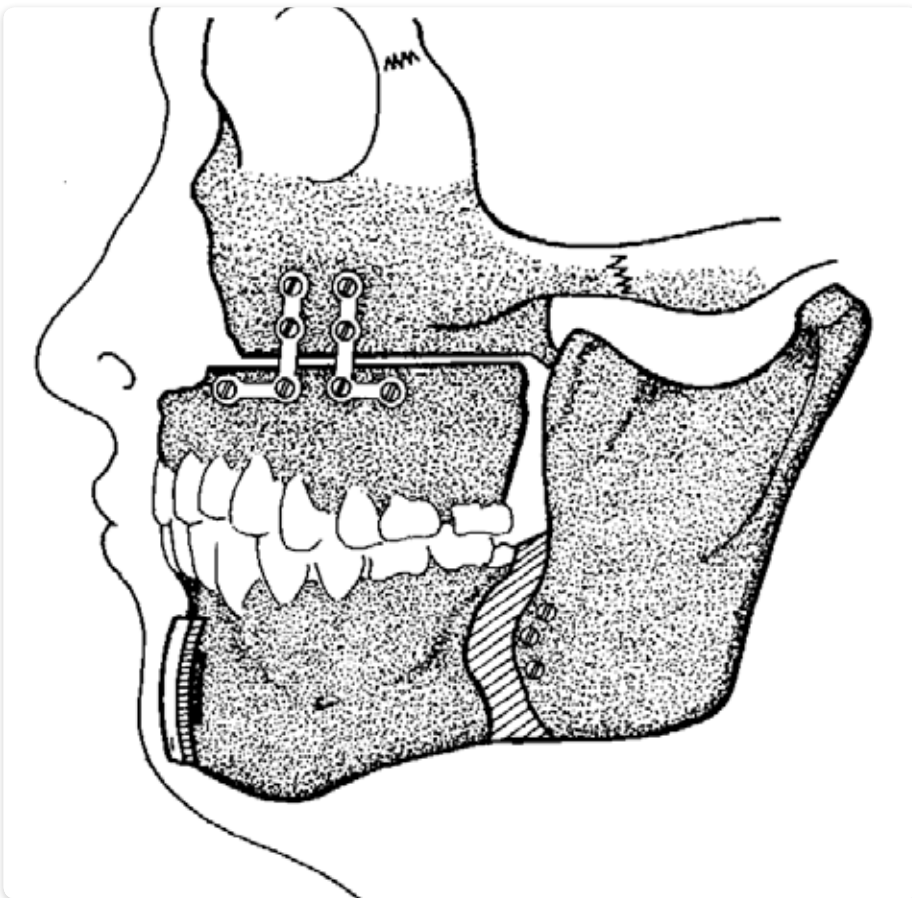
# Tongue Base Reduction



- “Carve a chunk out of the back of tongue”
- There is a new operation of Coblator tongue reduction
- Radio-Frequency to tongue base has been used, but risks infection



# Orthognathic (Jaw) Surgery Bimaxillary Osteotomies



- Cut upper and lower jaws
- Advance with bone grafts
- A large operation
- Obtains best results - even for severe OSA .

# Laugh and the world laughs with you.

Snore and you sleep alone.

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*Anthony Burgess*

