

The Difficult Intubation!

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- Colonie, NY (Albany)
- EMS Chief
- Paramedic since 1980
- EMT since 1971
- Ski patroller since 1968
- Active on EMS unit since 1971
- EMS "life-er"







Today's focus...

- Success intubating
 - Non-breathing patients
 - Oral route
- No time for RSI today
- Will not talk about gadgets



A Difficult Airway ?

**Anticipated
Clinical
Course ?**

Is the airway open ?

Can they protect it ?

Are they oxygenating
adequately ?

Are they ventilating
adequately ?



7

The Airway Progression



Is a new paradigm emerging?



8



**Effective airway management does NOT
mean Intubation !**



9

What makes it difficult ?

- Tough to oxygenate and ventilate



10

What makes it difficult ?

- Can't get achieve oral intubation !
 - Successive attempts more challenging
 - The pressure is "on"



11

O.R.% of "Difficult" Airway ?

- Prescreening
- Patients "NPO"
- Knowing the secrets...
- No surprises !
- What % of failed intubations ?



12

In your OR experience...

- How many total seconds did you spend looking at airway anatomy and vocal cords ?



13

When they can't get the tube

- Who do they call ?
- How do they get the tube in ?
- % of ED "failed" airway ?



14

EMS system...

- How many intubations are done ?
 - Colton
 - 9,800 runs
 - +/- 100 arrests
 - 50-60 resp failure
 - 30-40 " Pharm " assisted
 - 70 Paramedics
 - Do the math !



15

Make the first attempt count !

- Med-Act
 - Pre study 70% in 1st attempt
 - Post study and CQI training 98% on 1st attempt



16



Gag Reflex ? Breathing ?



- BNTI
 - Blind nasotracheal intubation
- Pharmacologic assisted
 - Sedation
 - Paralytics

Do you have OPTIMAL
head/neck position ?

Are you using a stylette?

Is your equipment ready ?

Do you have an assistant
to hold the larynx ?



19

Who is likely to be difficult ?

- Learn to anticipate who WILL be difficult to intubate



20

How tough will this tube be?



The Mallampati/3-2-2 Etc.

Mallampati www.medscape.com

Mallampati Signs as Indicators of Difficult Intubation



Class I: soft palate, uvula, fauces, pillars visible

No difficulty



Class II: soft palate, uvula, fauces visible

No difficulty



Class III: soft palate, base of uvula visible

Moderate difficulty



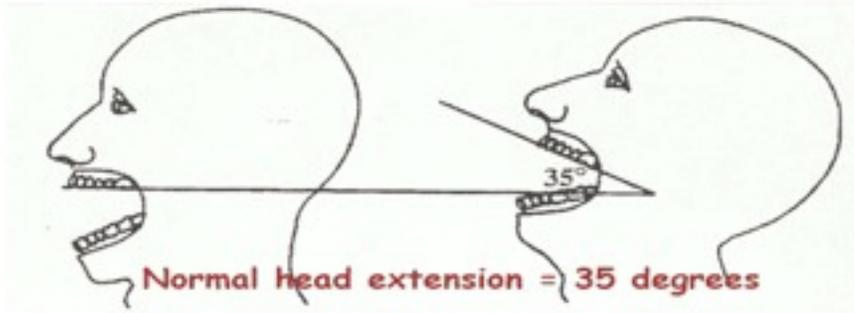
Class IV: hard palate only visible

Severe difficulty

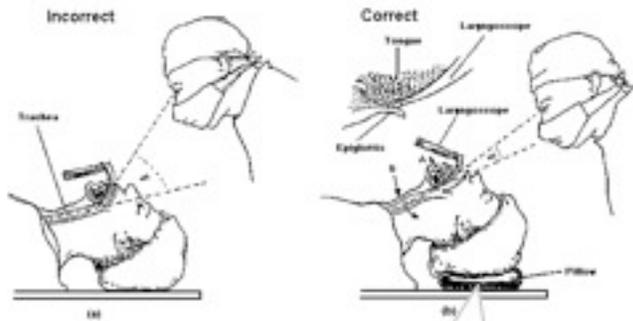


Jaw mobility/mouth opening



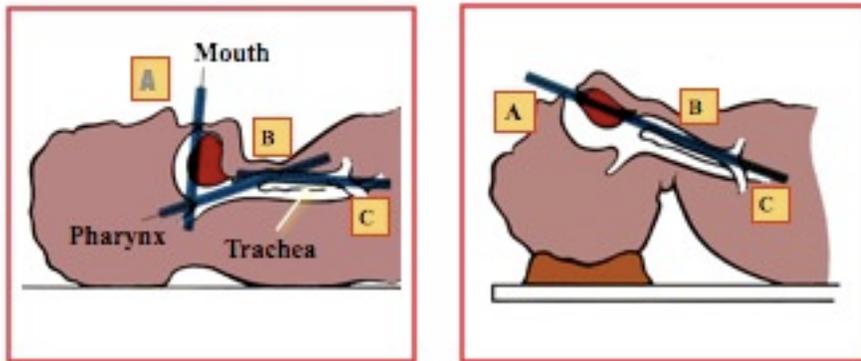


Head Position !
Head Position !
Head Position !



Get something
Under the head !

Aligning Axes of Upper Airway

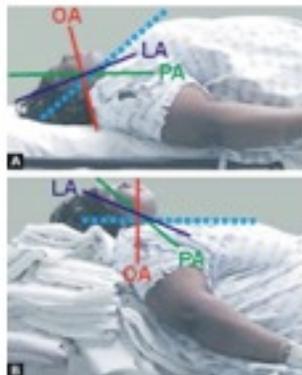


27

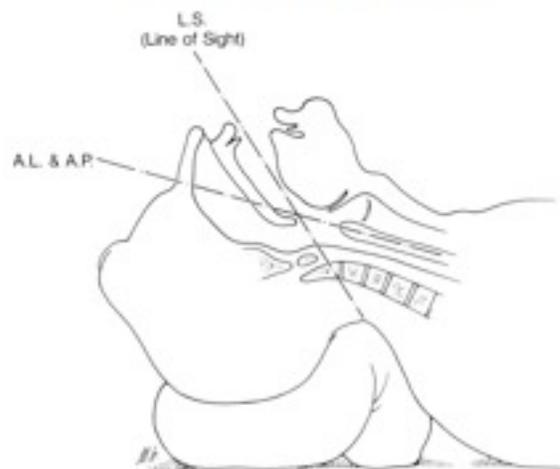
A FLAT Ear to sternal notch alignment is Key !

Look at the dotted line...

If obese... elevate the shoulders and head !

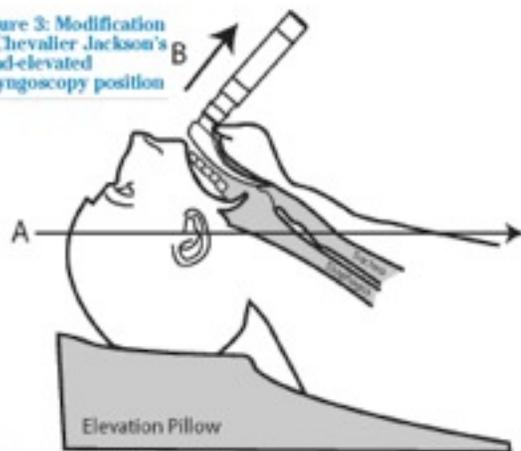


Elevated head position makes visualizing the cords MUCH easier !

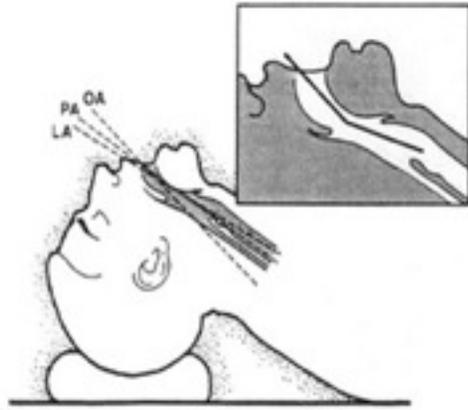


Note ear to sternal notch angle

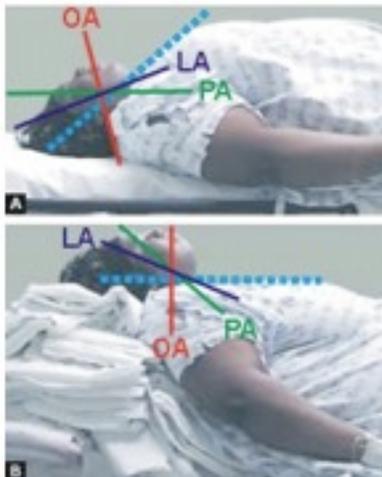
Figure 3: Modification of Chevalier Jackson's head-elevated laryngoscopy position



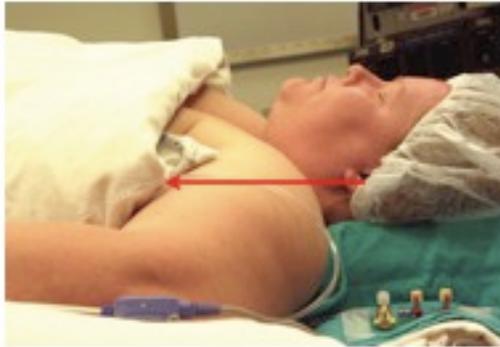
Optimal Positioning



Look at dotted line



Poor position...



Ideal position...



Positioning “on the fly”



You can use
Anything!

Folded SAM splints
work well!



One or Two Folded Splints





37

Troop Elevation Pillow

Designed and developed by a practicing anesthesiologist
to address the prevalent problem of "stacking blankets."

The Troop Elevation Pillow is designed and intended
to facilitate airway management for obese and
large-framed patients. The pillow is for delivery and
post-op care.



38

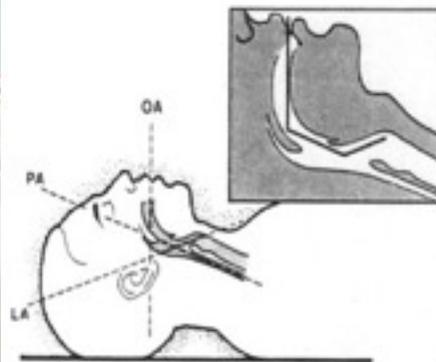






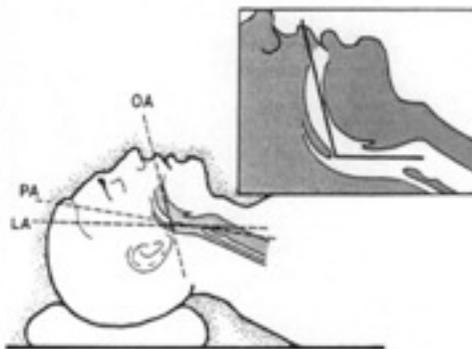
43

The position is not flat supine

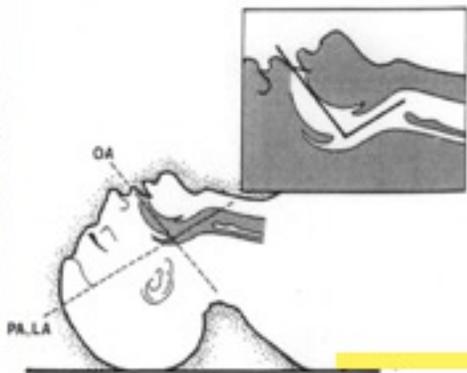
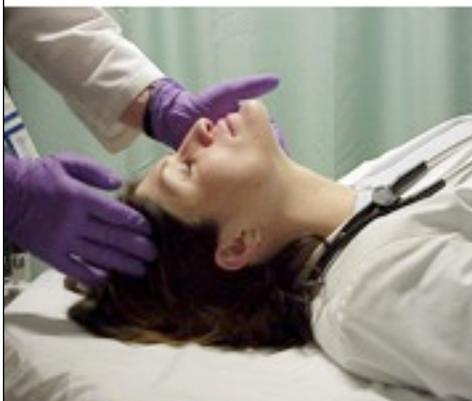


44

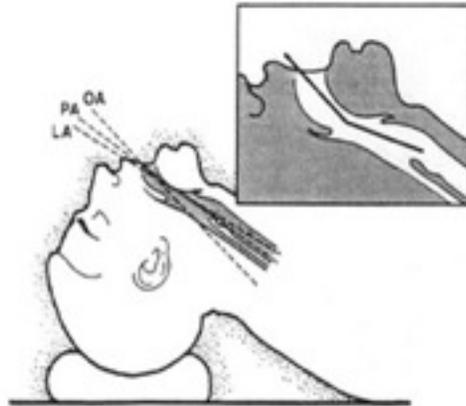
The position is not hyperflexed



The position is not hyperextended



Optimal Positioning



47

Equipment Ready...

Tube/stylette ready

"Comfort Blade"

Suction ready

ET CO2 ready

Stethoscope ready

- **Have an item to elevate head ready !**



Make the tube look like a hockey stick!



Disposable Blades ?



Your comfort blade ?

- Curved
 - Macintosh
 - E Macintosh
- Straight
 - Wisconsin
 - Miller
 - Guedel



51

Curved Blade Inserted Against Epiglottis



52



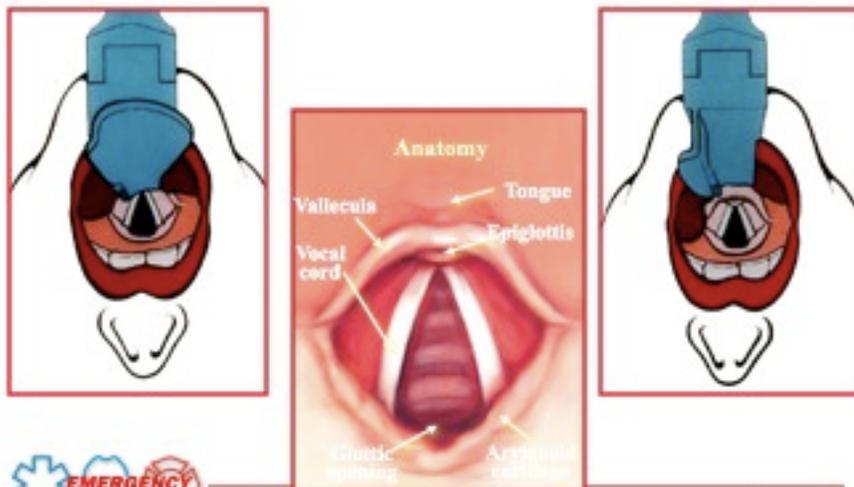
Straight-Blade Laryngoscope



Straight-Blade Inserted Past Epiglottis



55



56

Are your tools ready ?

- Suction
 - Rigid yankauer tip
- Tube/stylette
 - Hockey stick curve
- Your "comfort" blade ?
 - Curved provides best visualization !



57

Continuous Regurgitation ?

- Selleck Maneuver
- Suction !



58

Can't see cords ?

- The best tool for the difficult intubation is your RIGHT HAND !



Improve the view !
with your RIGHT Hand !



It's all about seeing cords...



- Laryngeal manipulation really helps !



Improve your view...

No laryngeal manipulation

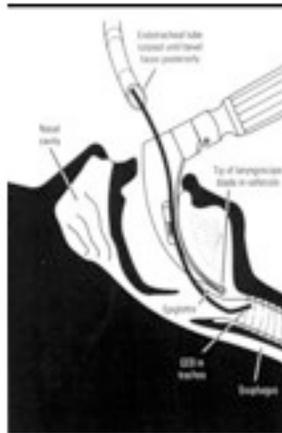


Have a helper hold the Larnyx in position!



Can't see cords ?

- Think Gum Bougie !



63



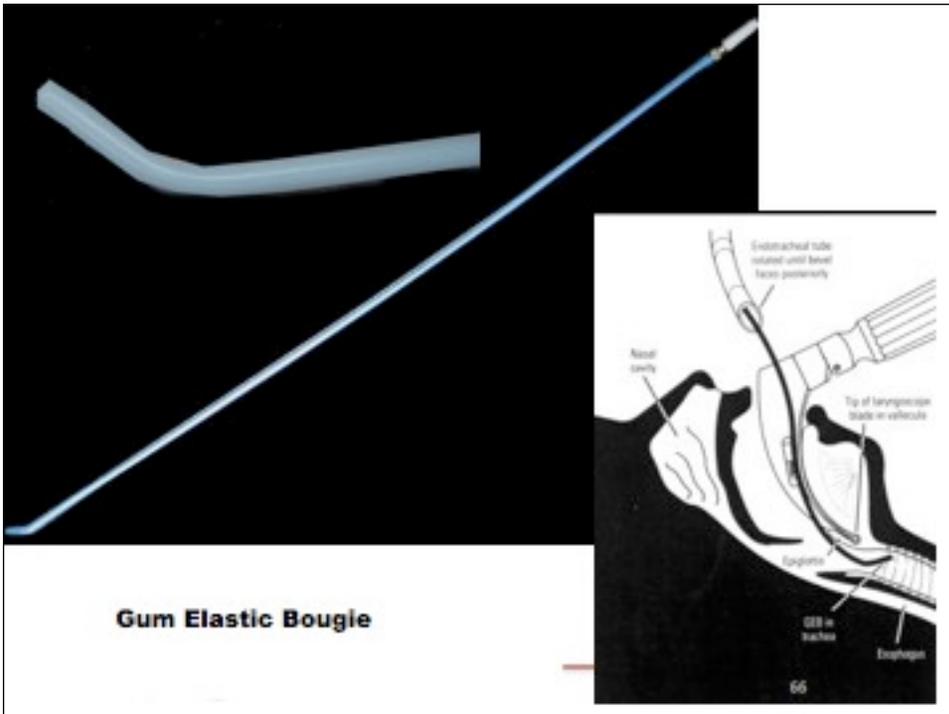
The Ideal View

64



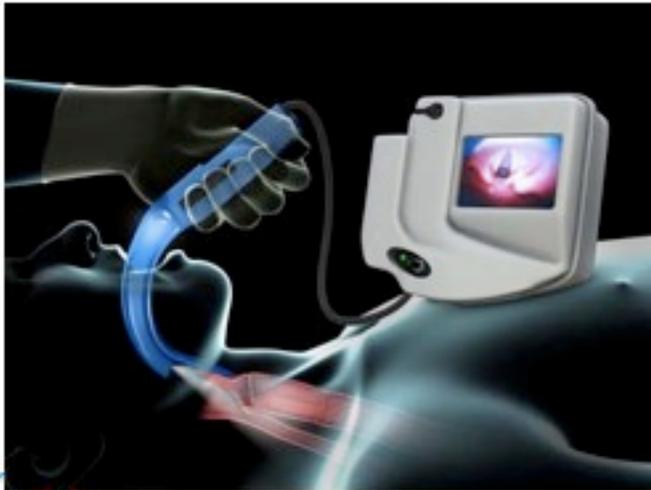
Can't see cords....Just the tip of the epiglottis

1. Pass the Bougie
2. Feel for tracheal bumps
3. Pass the tube over the bougie



Gum Elastic Bougie

The Glide Scope



67

Still can't see cords ?

- Multiple attempts ?
- It's time for a rescue airway !



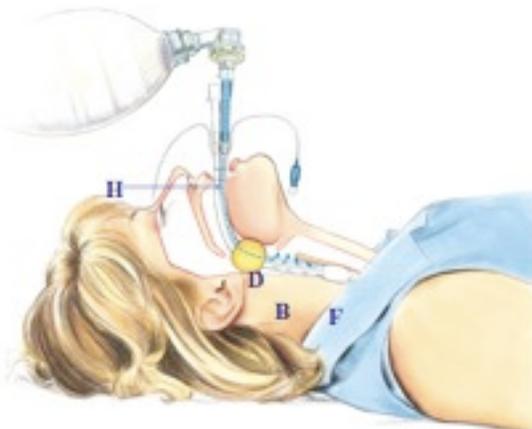
68

Combitube...LMA... King LTD

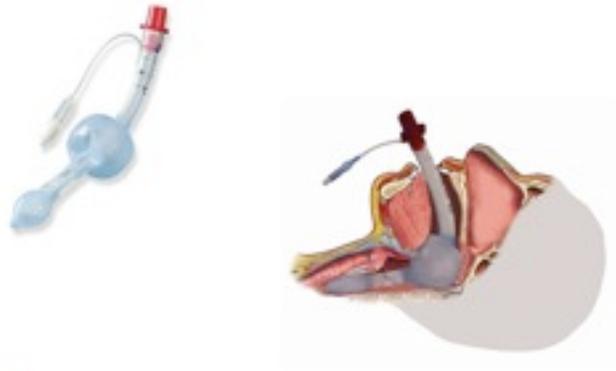


Combitube Inserted in Esophagus

- A = Esophageal obturator; ventilation into trachea through side openings = B
- D = Pharyngeal cuff (inflated)
- F = Inflated cuff
- H = Teeth markers; insert until marker lines at level of teeth



King LTD Airway



Last resort...

- The surgical airway
 - Scalpel/#6 tube
 - Needle cric
 - Rusch device



Where's the tube ?

- NAEMSP position paper on confirmation
 - Capnography
 - EDD
 - Colormetric devices



73

3 Keys to success

- Equipment ready PRIOR to attempt !
- Optimize Head Position PRIOR to attempt !
- Improve laryngeal view with your RIGHT hand DURING the attempt !



Most “difficulty”

- Caused by lack of mastery of fundamentals
- Human Compulsion to gadgetry !



75

Do you have **OPTIMAL** head/neck position ?

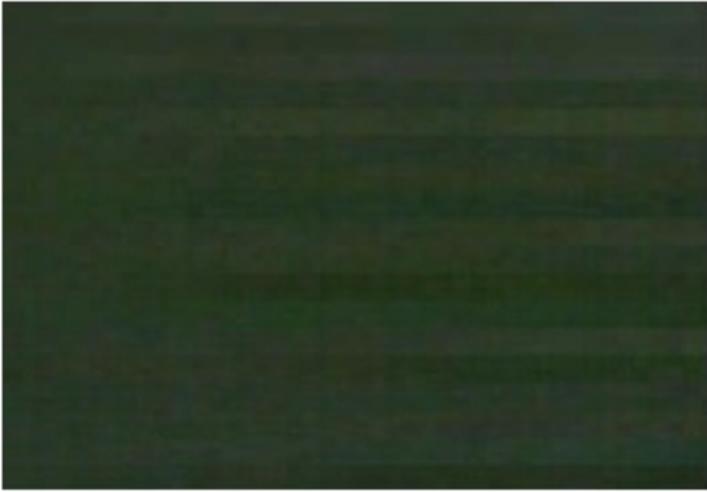
Are you using a stylette?

Is your equipment ready ?

Do you have an assistant to hold the larynx ?



76



Questions ?



**Be Safe....Play Fair...
Have Fun !**

www.JonPolitis.com