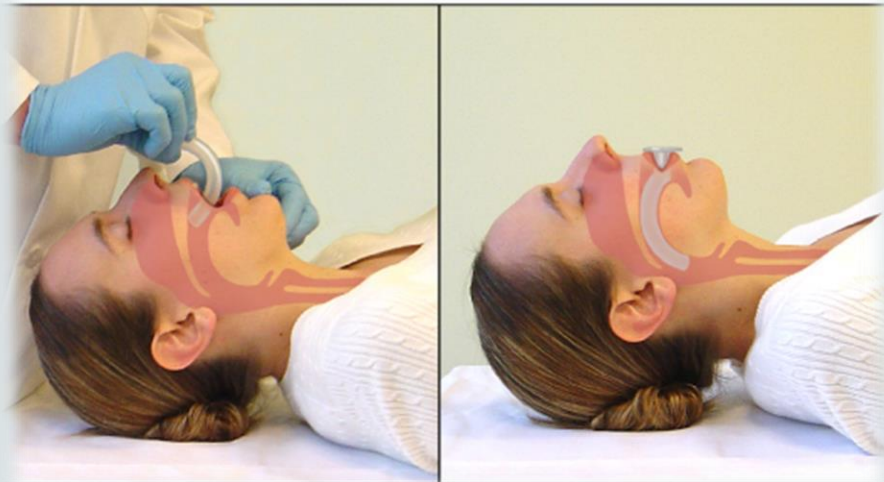


Airway Management

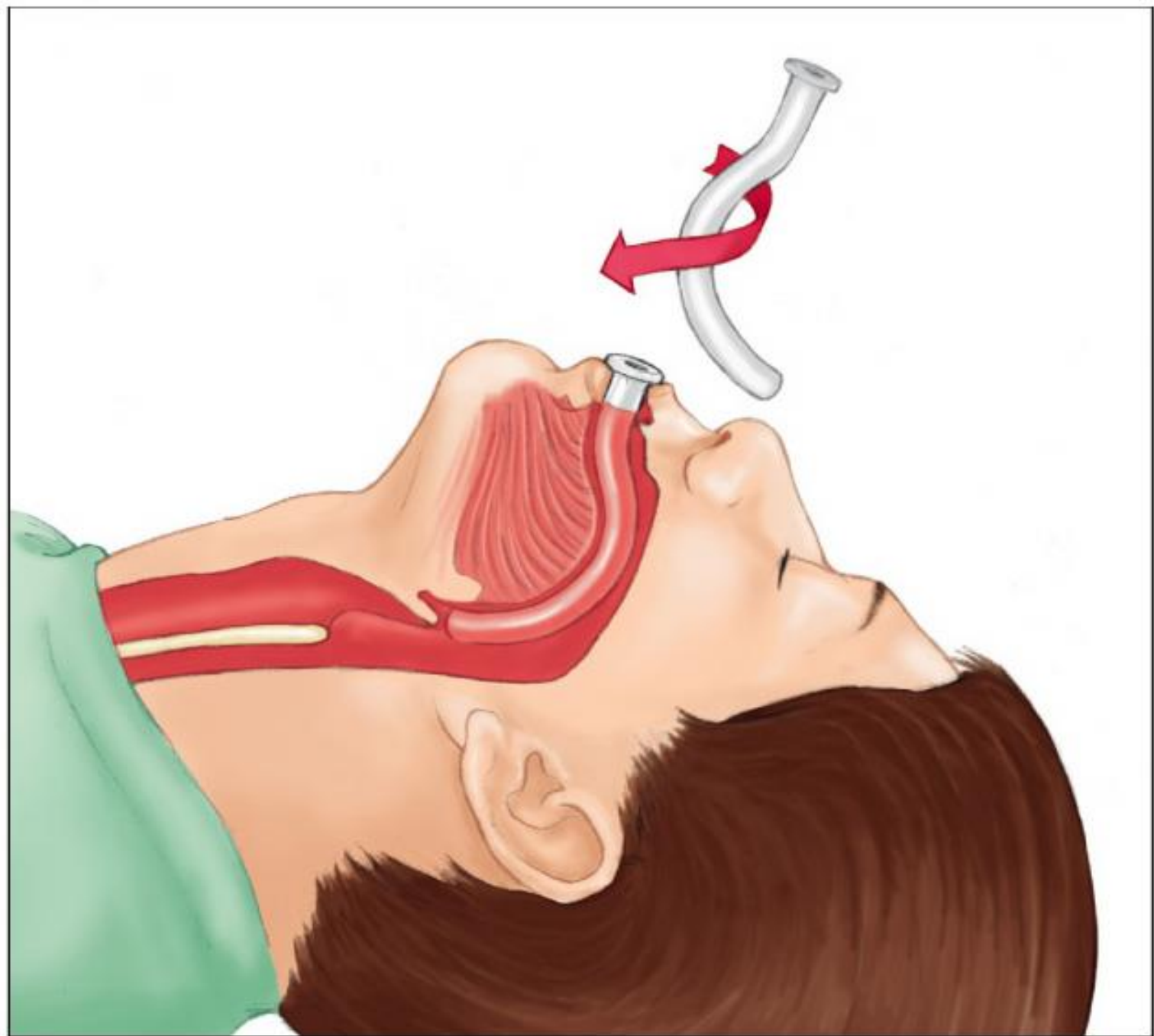


Select the proper size (corner of the mouth to tip of the ear)]

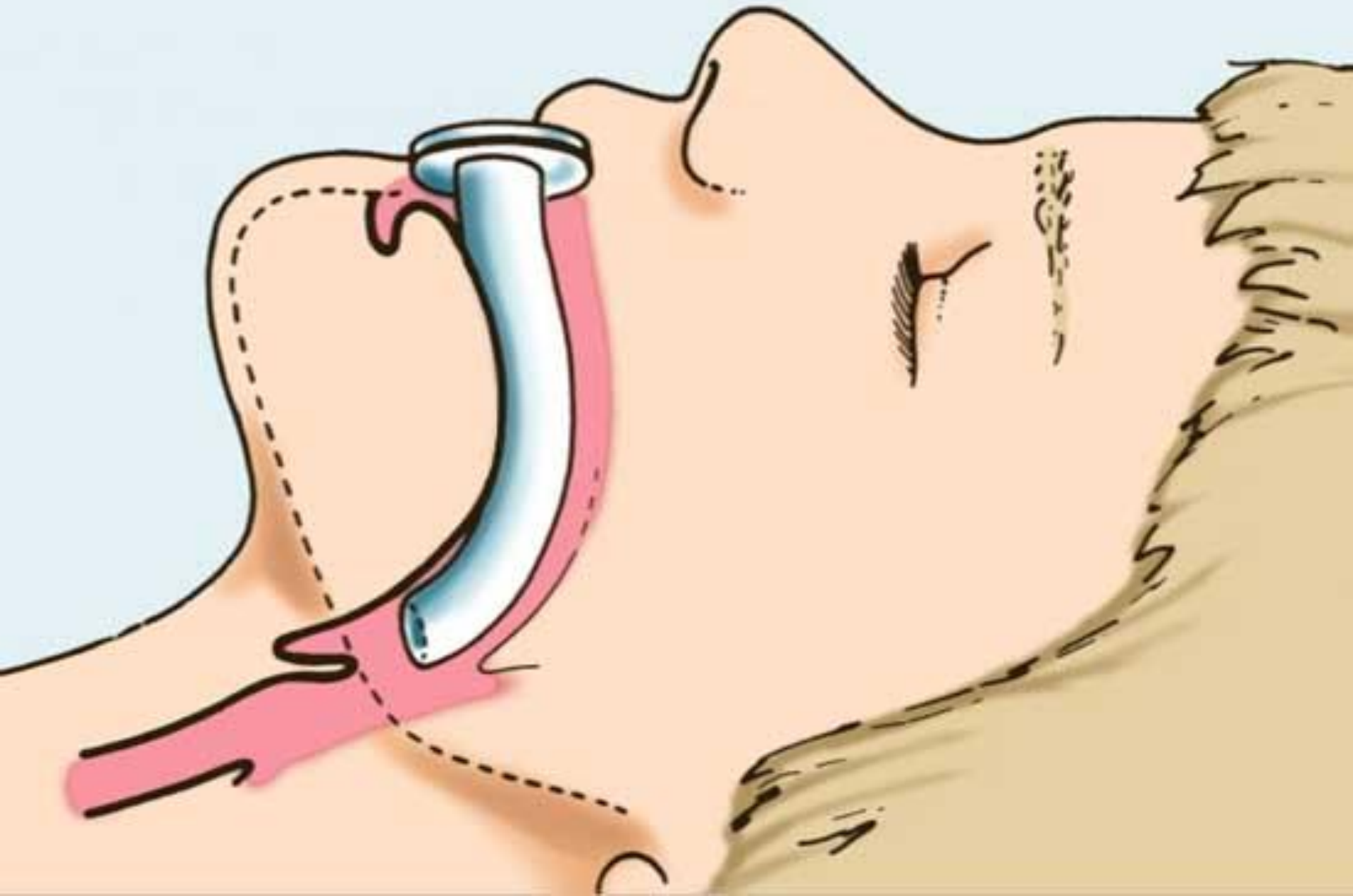




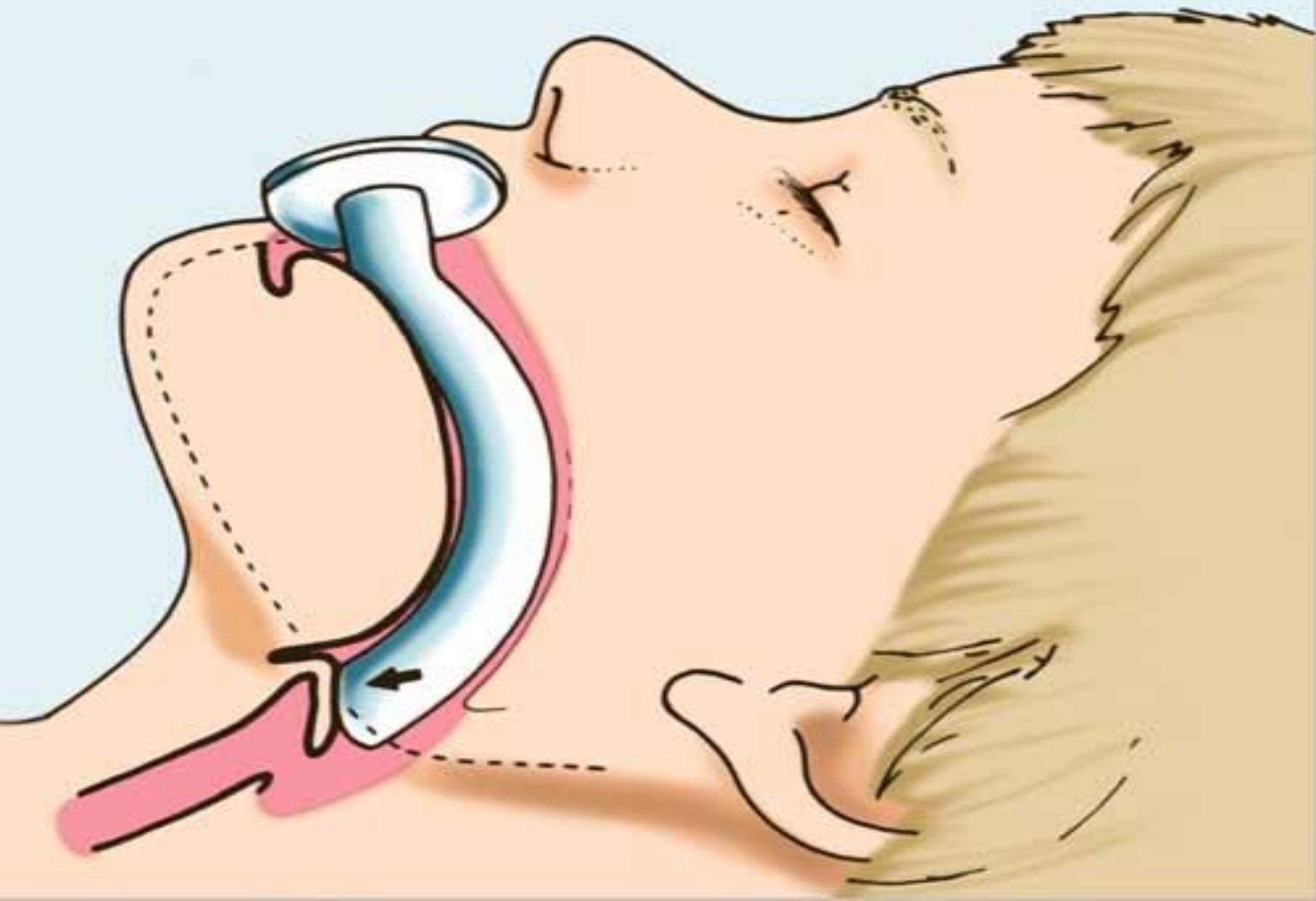




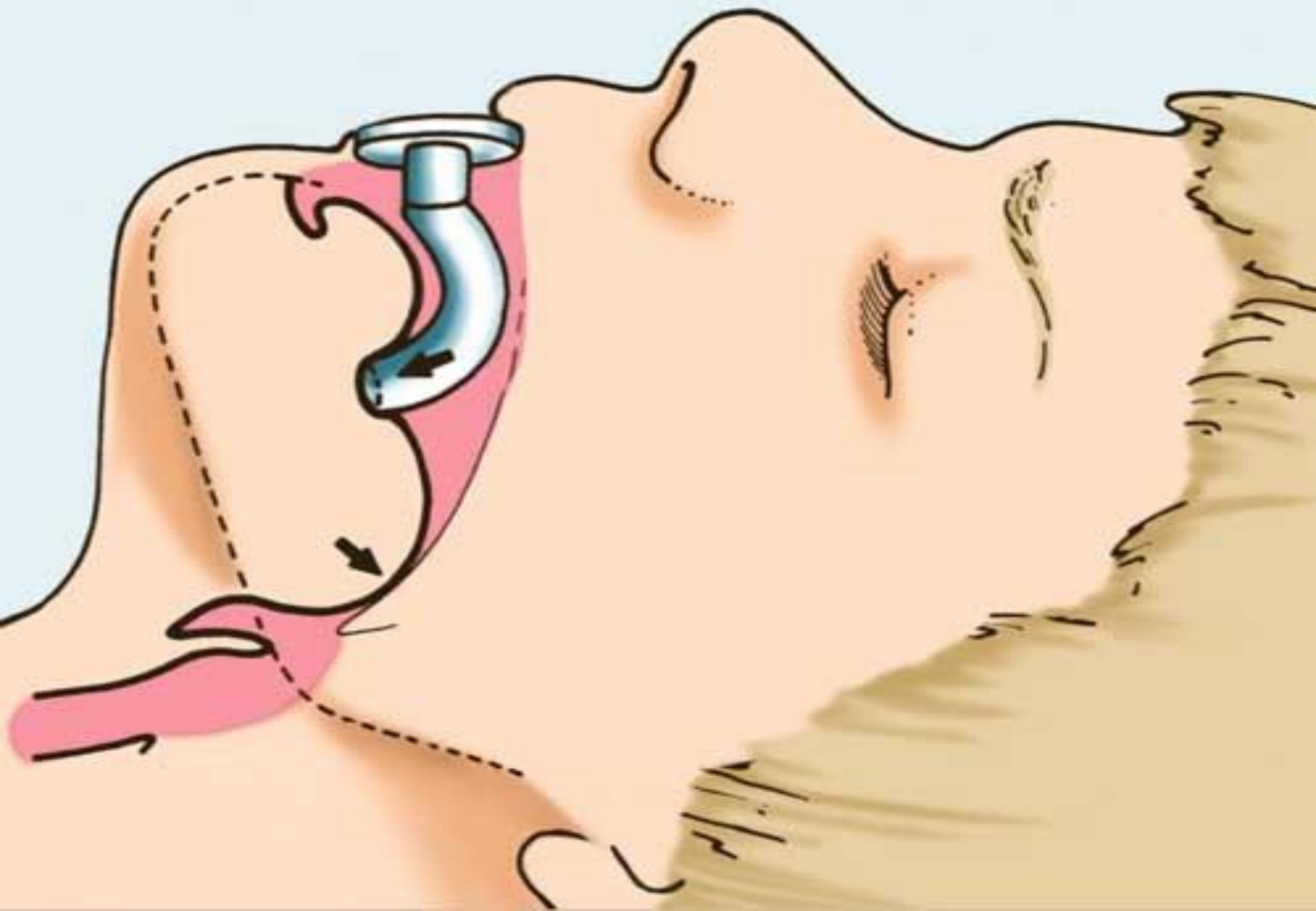
Oropharyngeal Tube Placement: Proper length



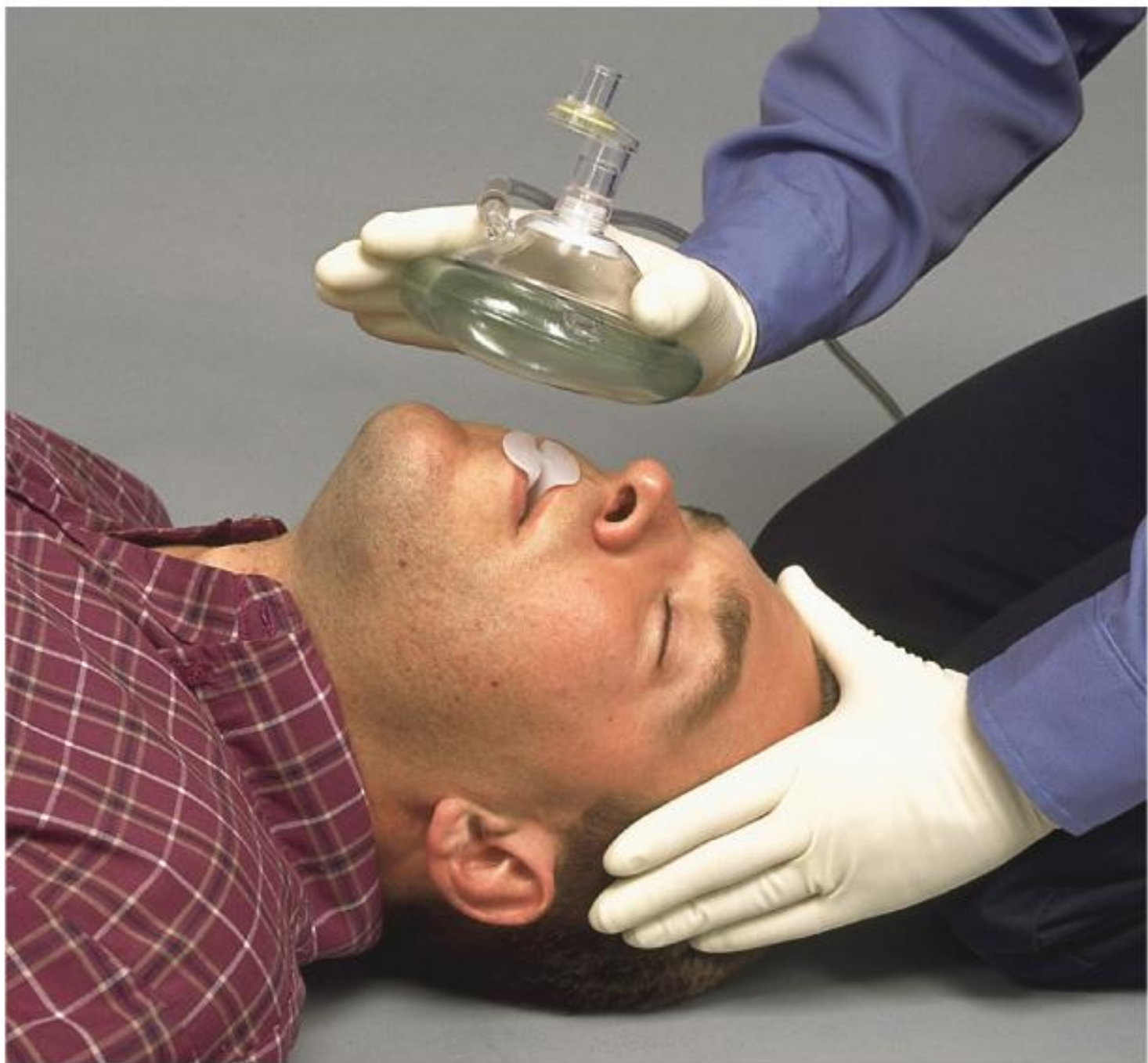
Oropharyngeal Tube Placement: Overly long tube



Oropharyngeal Tube Placement: Short tube



● BVM آمبوبگ یک نام تجاری است که در سال 1953 بر روی اولین نوع
لذا نام (Dr. Holger Hesse) ساخته شده توسط یک مهندس آلمانی گذاشته شد
نام دارد که با حجم های 500 ، 600 ، Bag-Valve-Mask اصلی این وسیله
باید حتماً شفاف باشد و حتماً BVM 1500 ، 2000 سی سی موجود می باشد
به رابط اکسیژن وصل باشد همچنین بگ ذخیره به آن متصل باشد چرا که بواسطه
را ایجاد نماییم. Fio2 90% همین بگ ذخیره است که می توان



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E-C clamp technique



Bag-Valve-Mask Components



One-Person BVM Technique



How much is Oxygen Delivered?

1-Deelivery oxygen by pure ambo bag :

16% - 21%



2- Ambo bag plus Oxygen : 40-60%



3- Ambo bag with reservoir bag plus oxygen:>90%



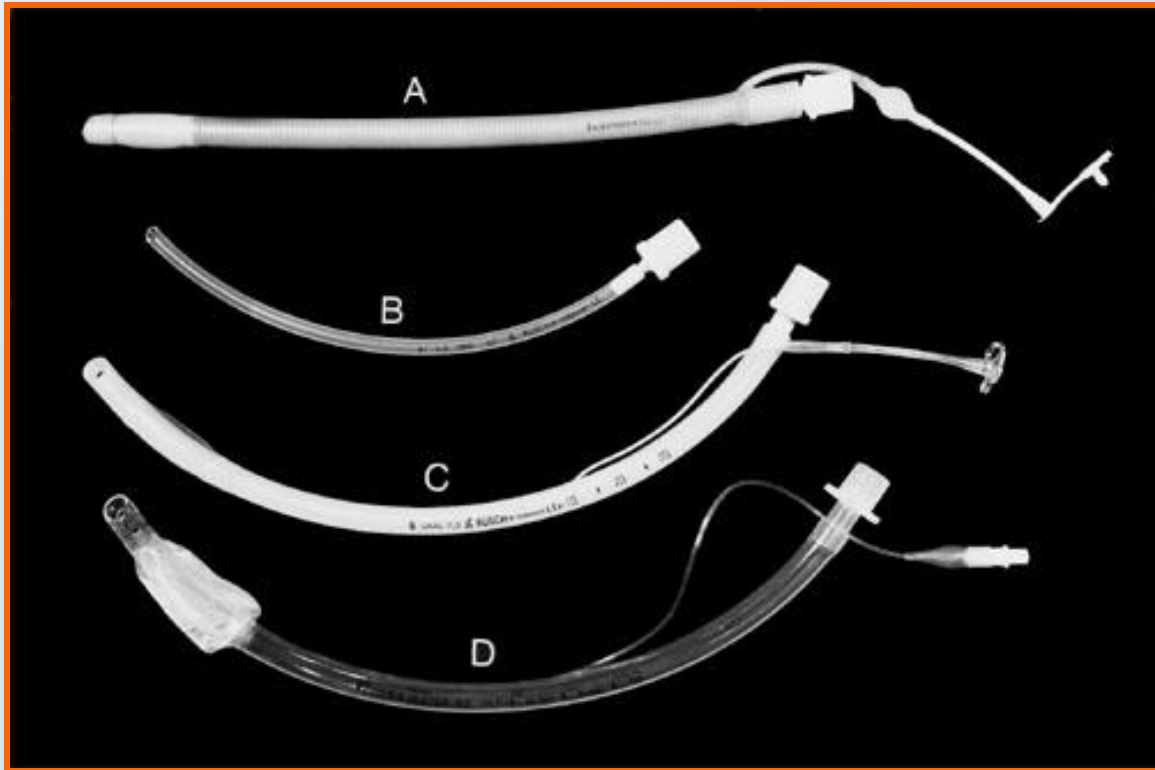
چه زمانی از لوله تراشه استفاده می کنیم :

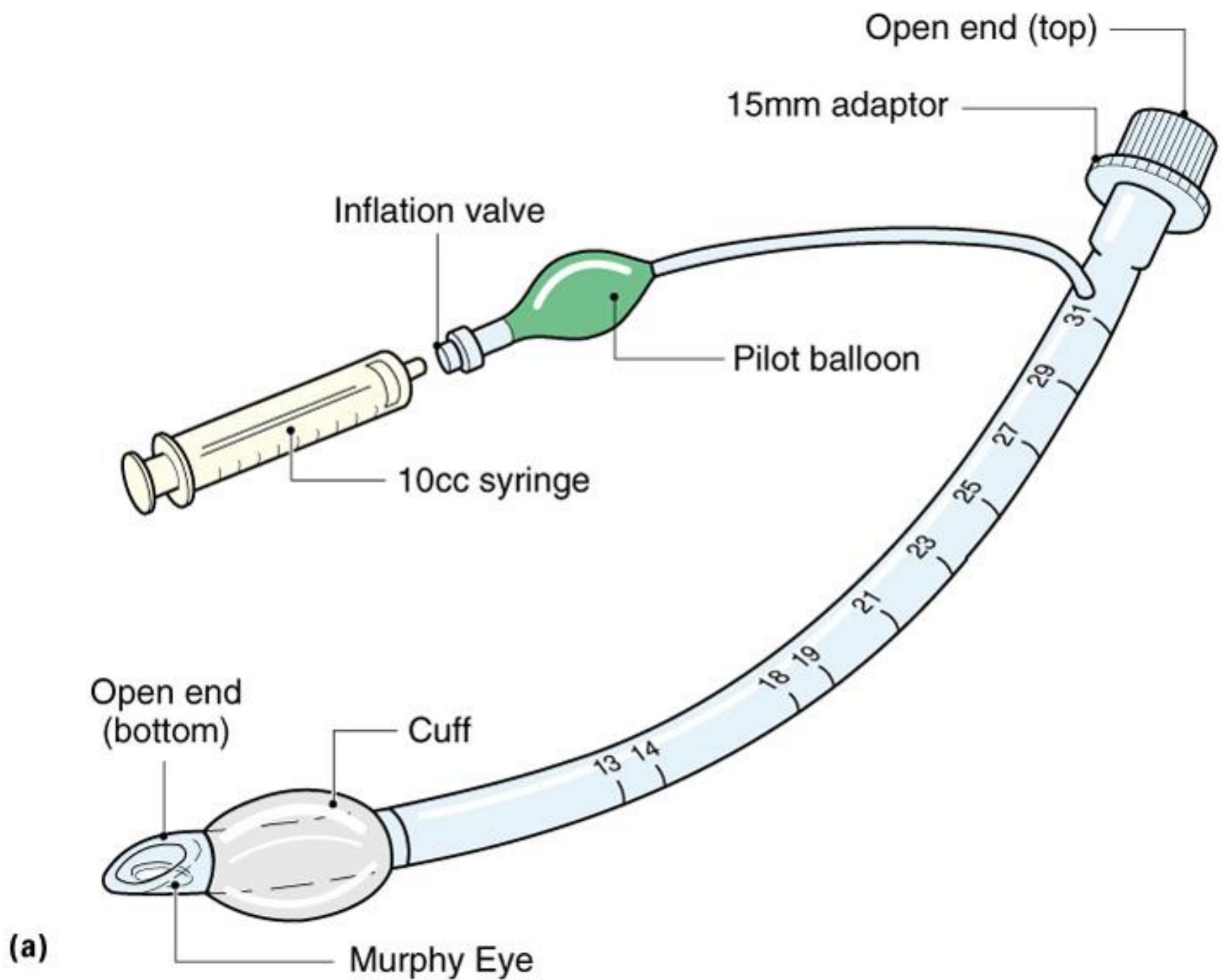
GCS<8 ❖

ایست قلبی یا تنفسی ❖

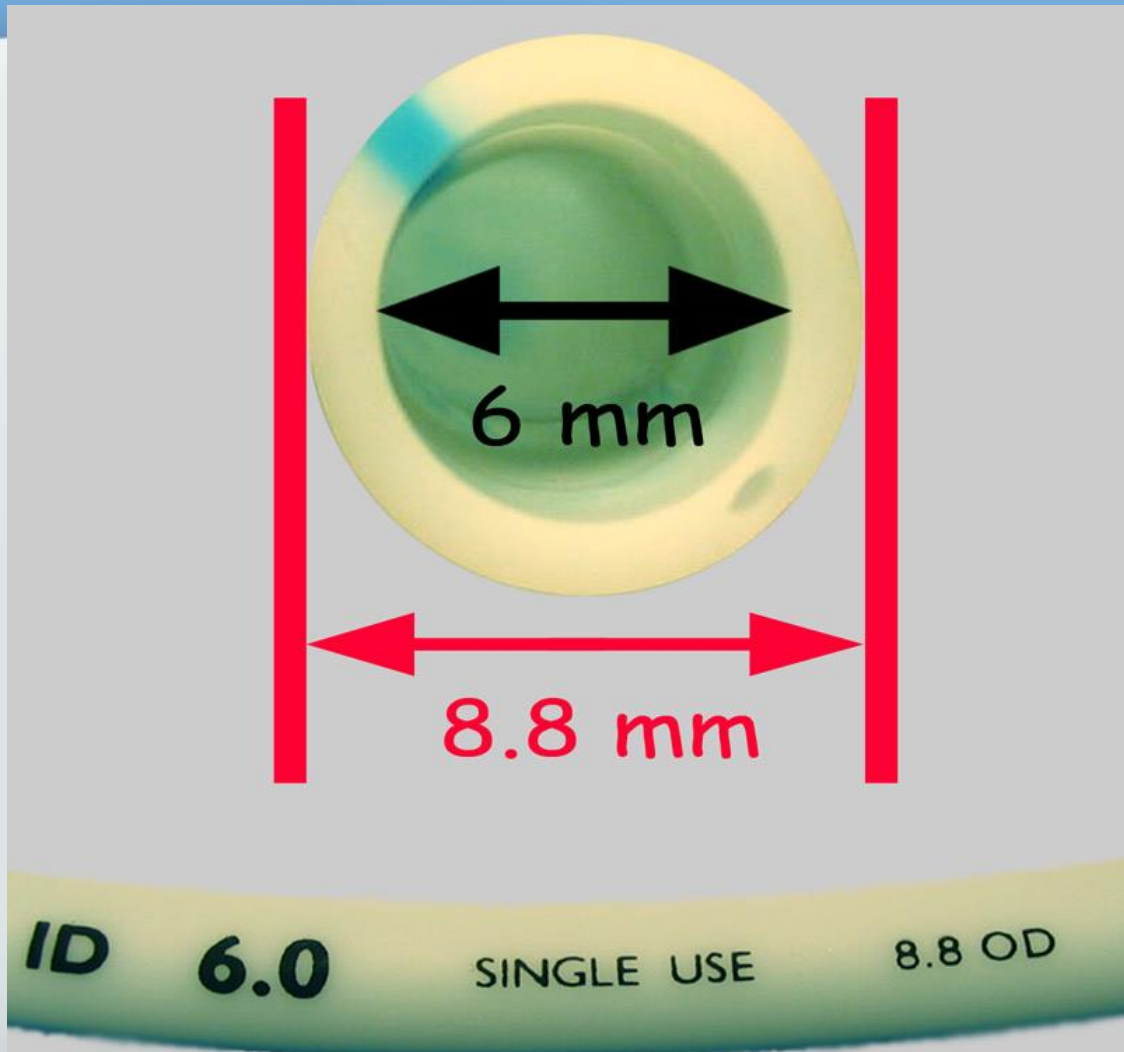
نارسائی شدید تنفسی ($RR > 40$) ❖

Endotracheal tube (ETT)





(a)



Sizing Endotracheal tubes

Diameter

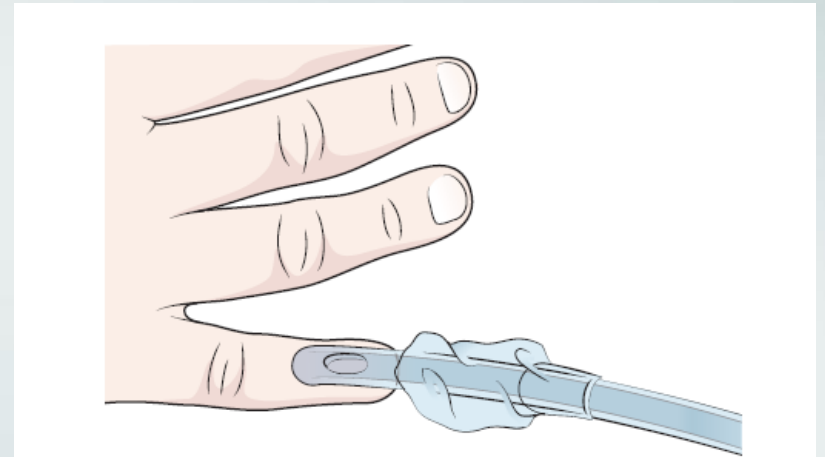
Neonate - 3.0 mm

0-6 months -3.5mm

6-12 months -4.0 mm

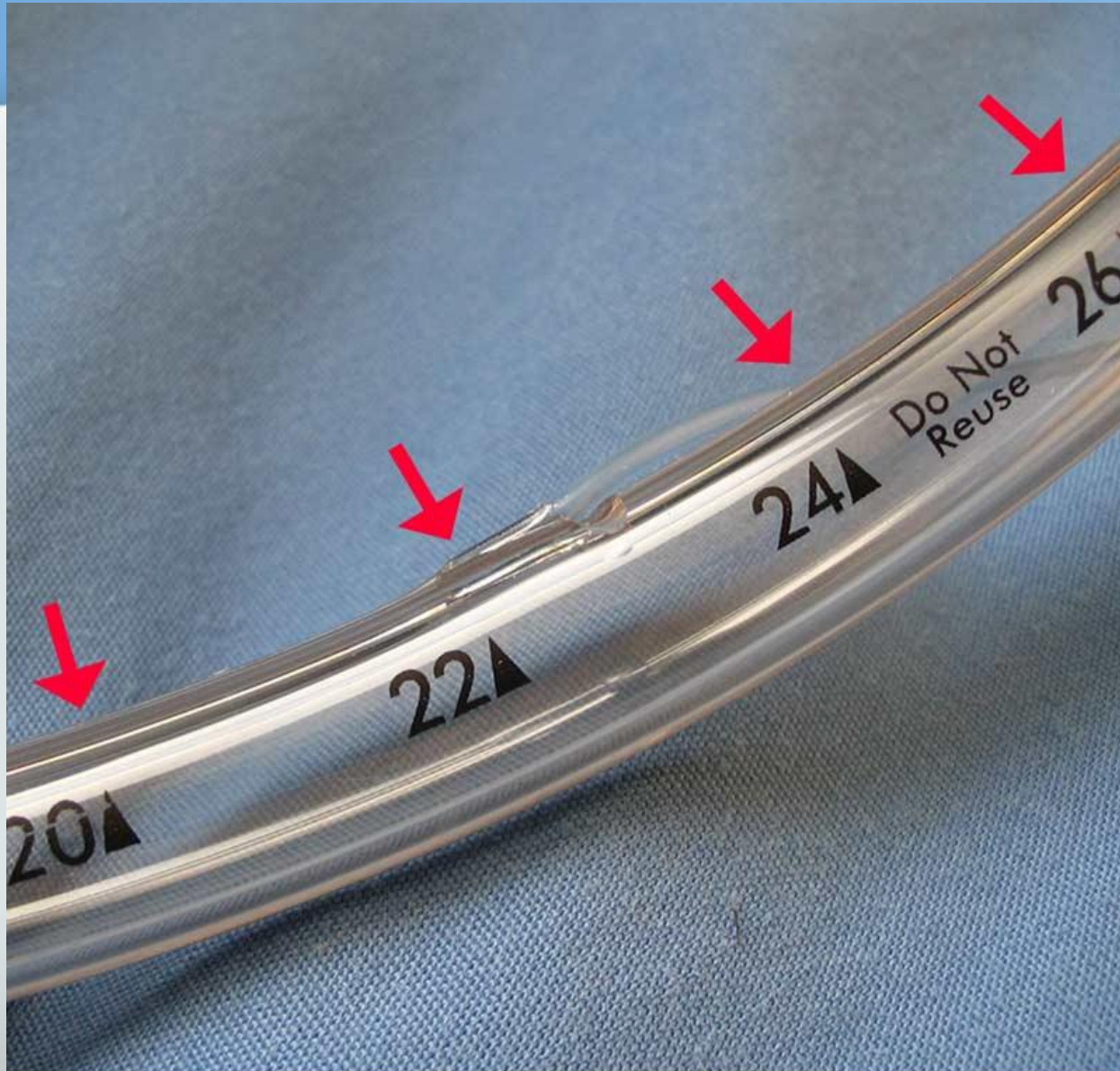
Then use

$(\text{Age in years} / 4) + 4 = \text{size of endotracheal tube (ET) mm}$



انتخاب سايز مناسب لوله

AGE	INTERNAL DIAMETER (mm)
Children	
Newborn	2.5
6 mo	3.5
1 yr	4.5
2 yr	5.0
4 yr	5.5
6 yr	6.0
8 yr	6.5
10 yr	7.0
12 yr	7.5
14 yr	8.0
Adults	
Female	7.0-8.0
Male	7.5-9.0
Special cases	

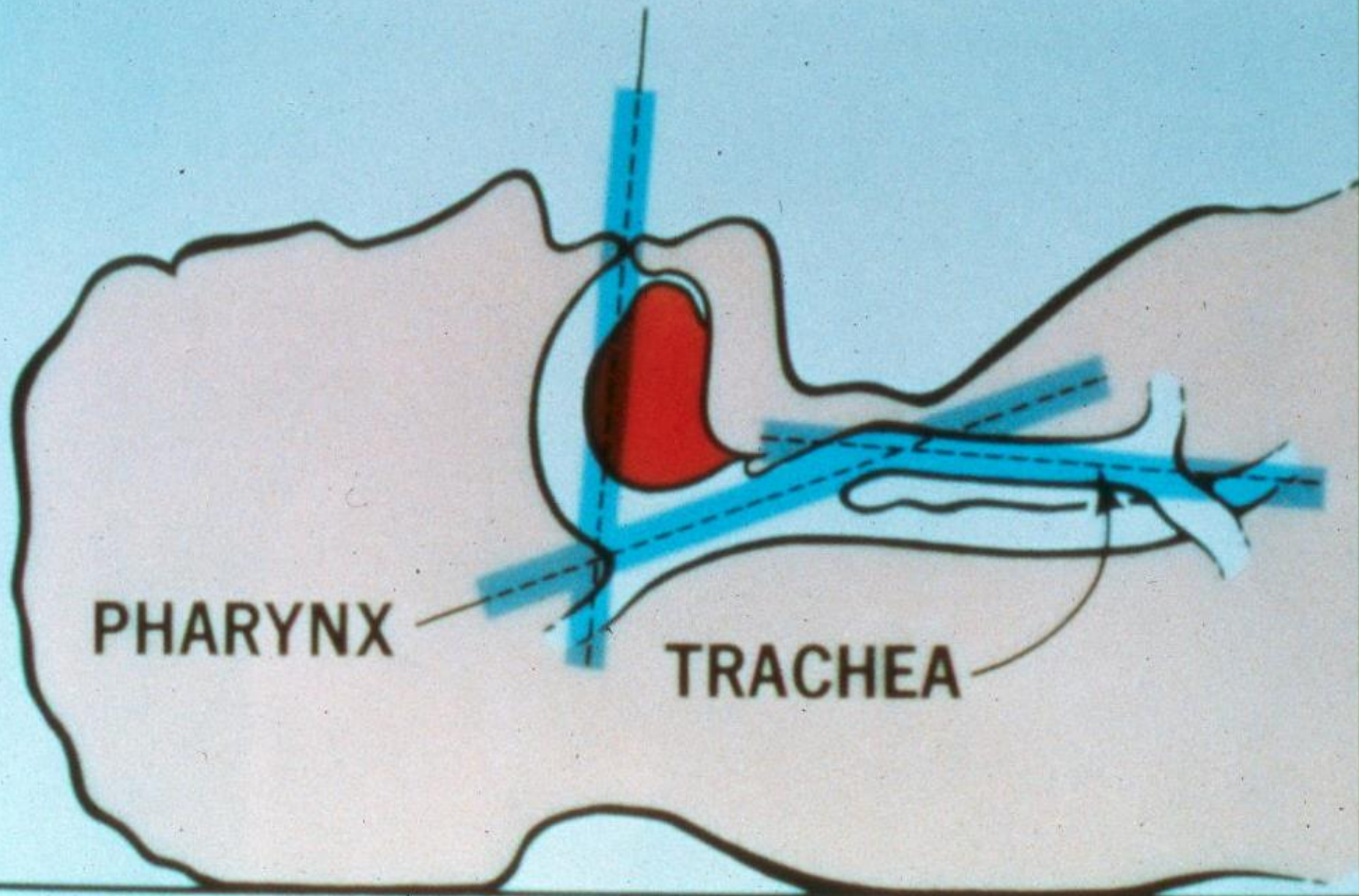


endotracheal tubes

Newborn		10 cm
1 yr		11cm
2 yr		12 cm
3 yr		13 cm
4 yr		14 cm
6 yr		15 cm
8 yr		16 cm
10 yr		17 cm
12 yr		18 cm

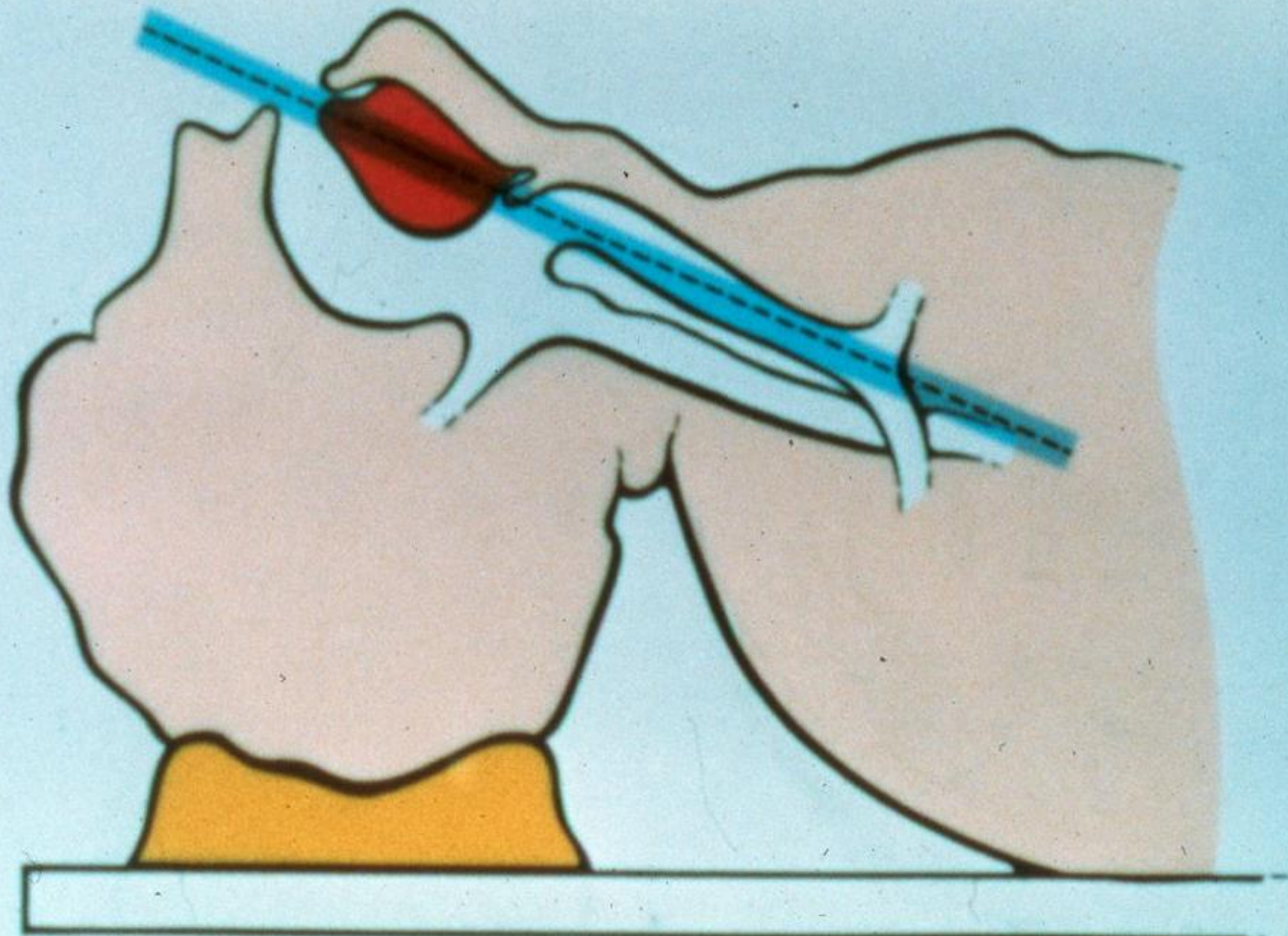
Formula for length (at lips) of oral tube is $\text{Age}/2 + 12$

MOUTH



PHARYNX

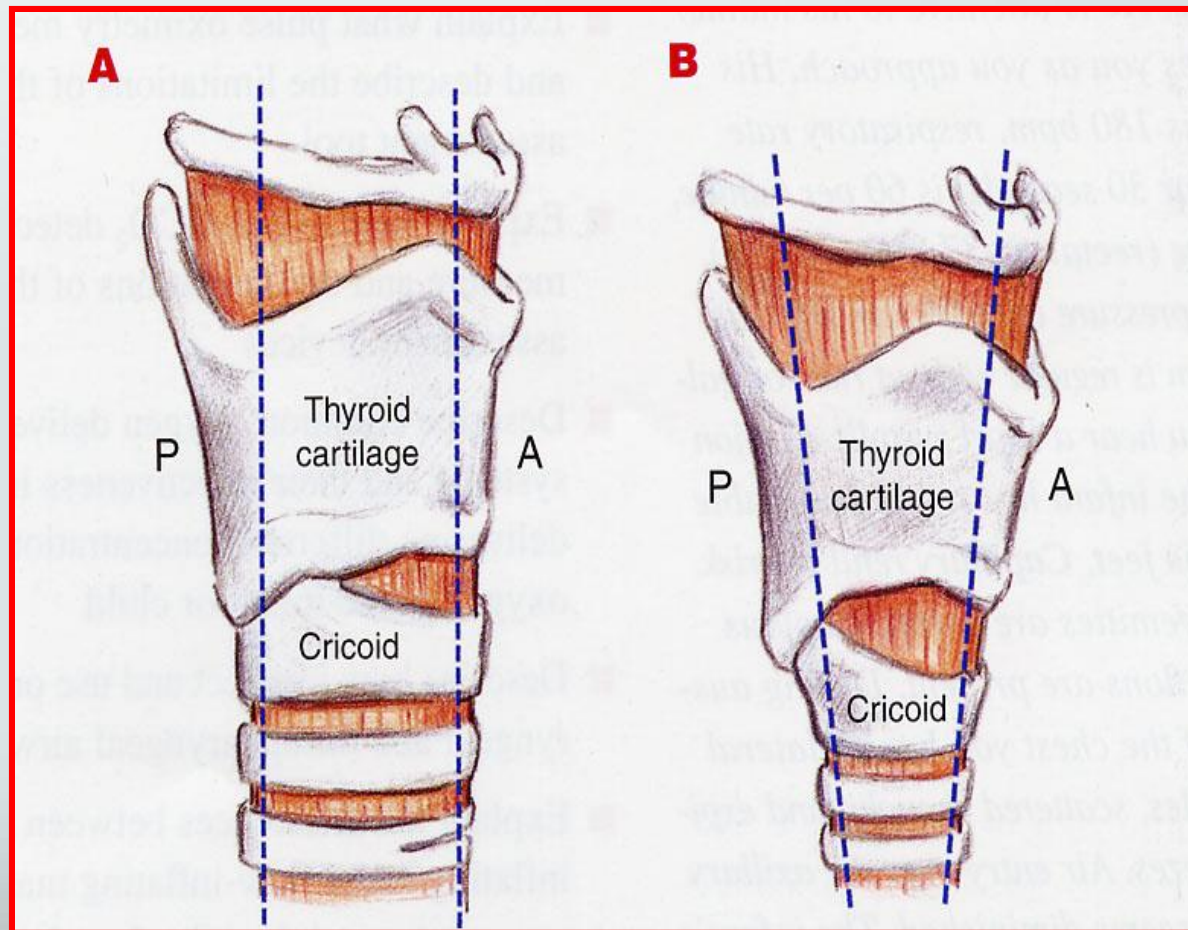
TRACHEA



Russell



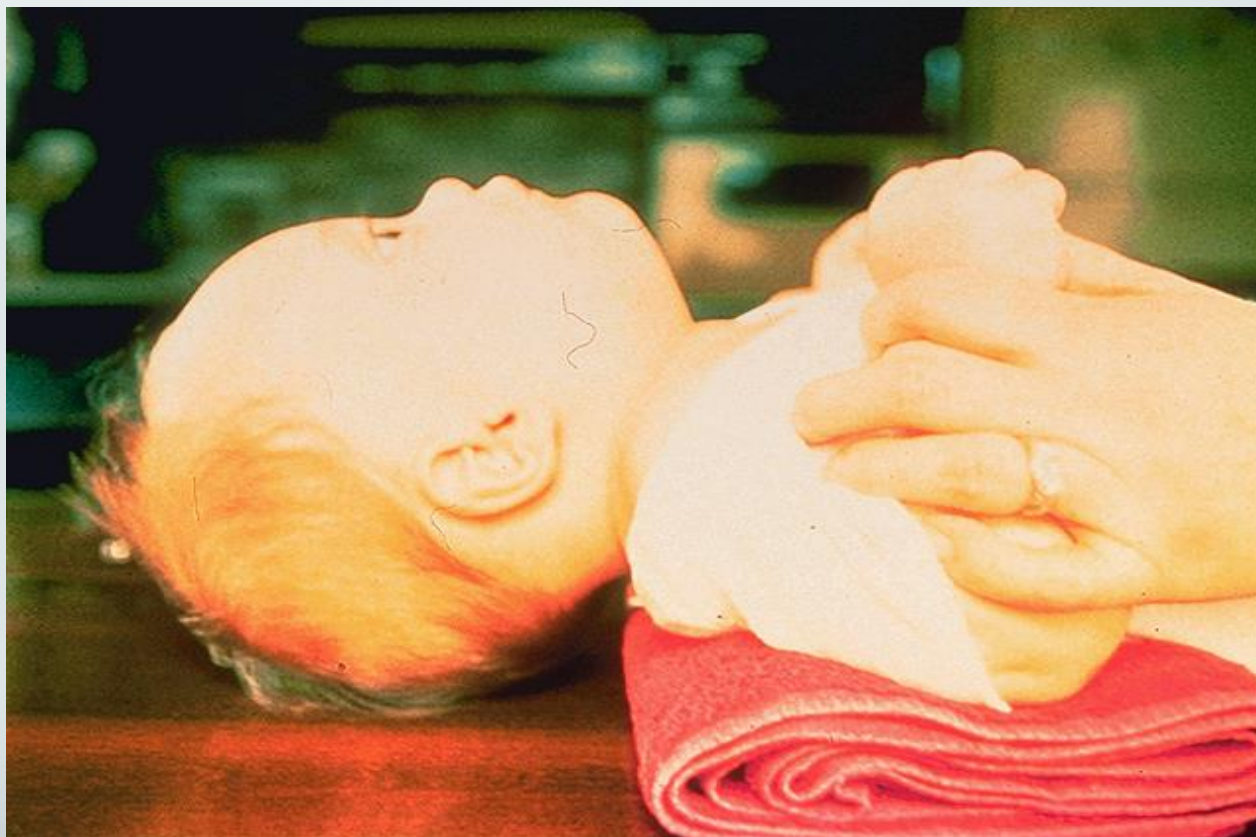
Children Are Very Different Than Adults !!!



In children < 2 y/o



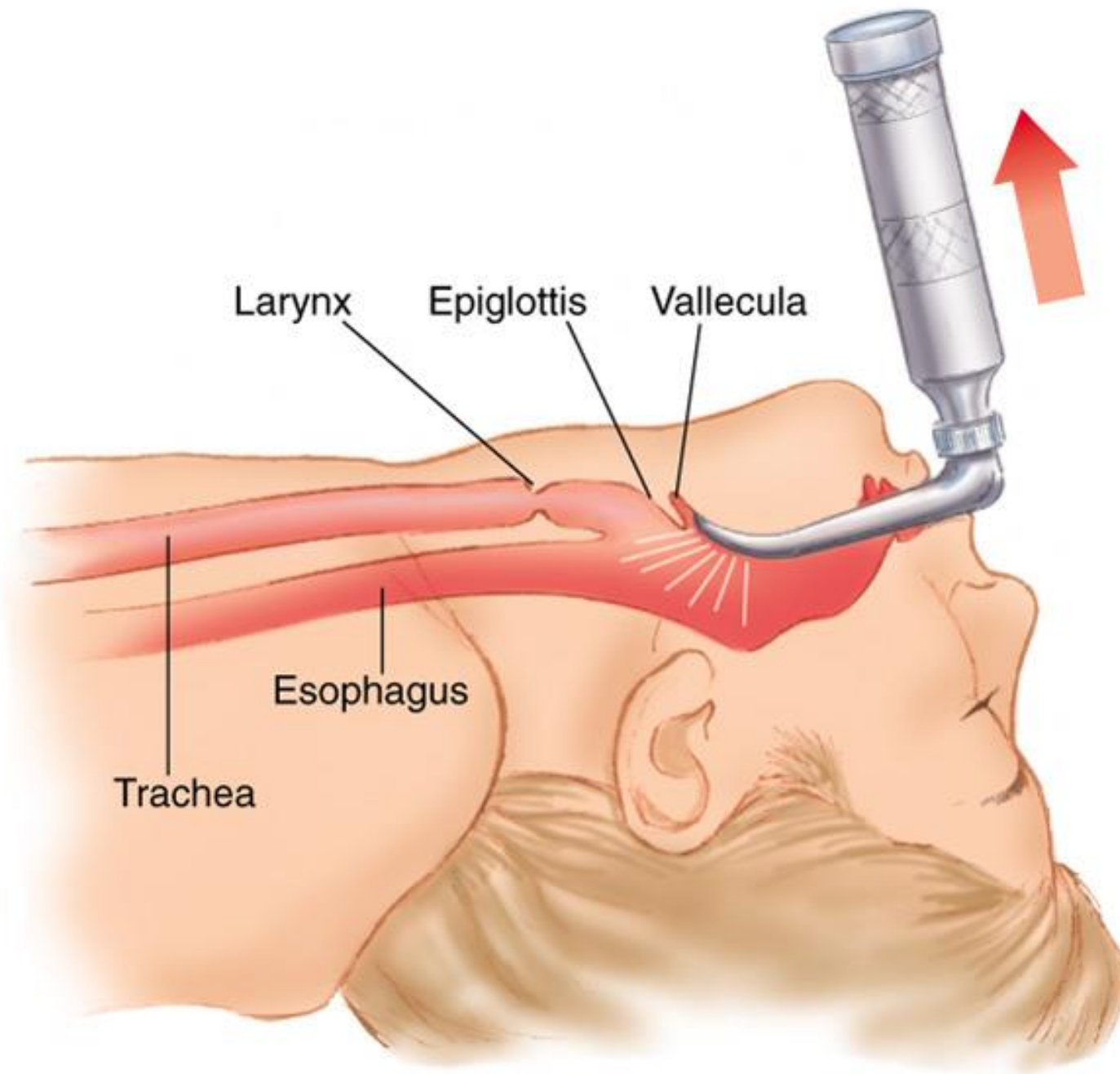
Correct position

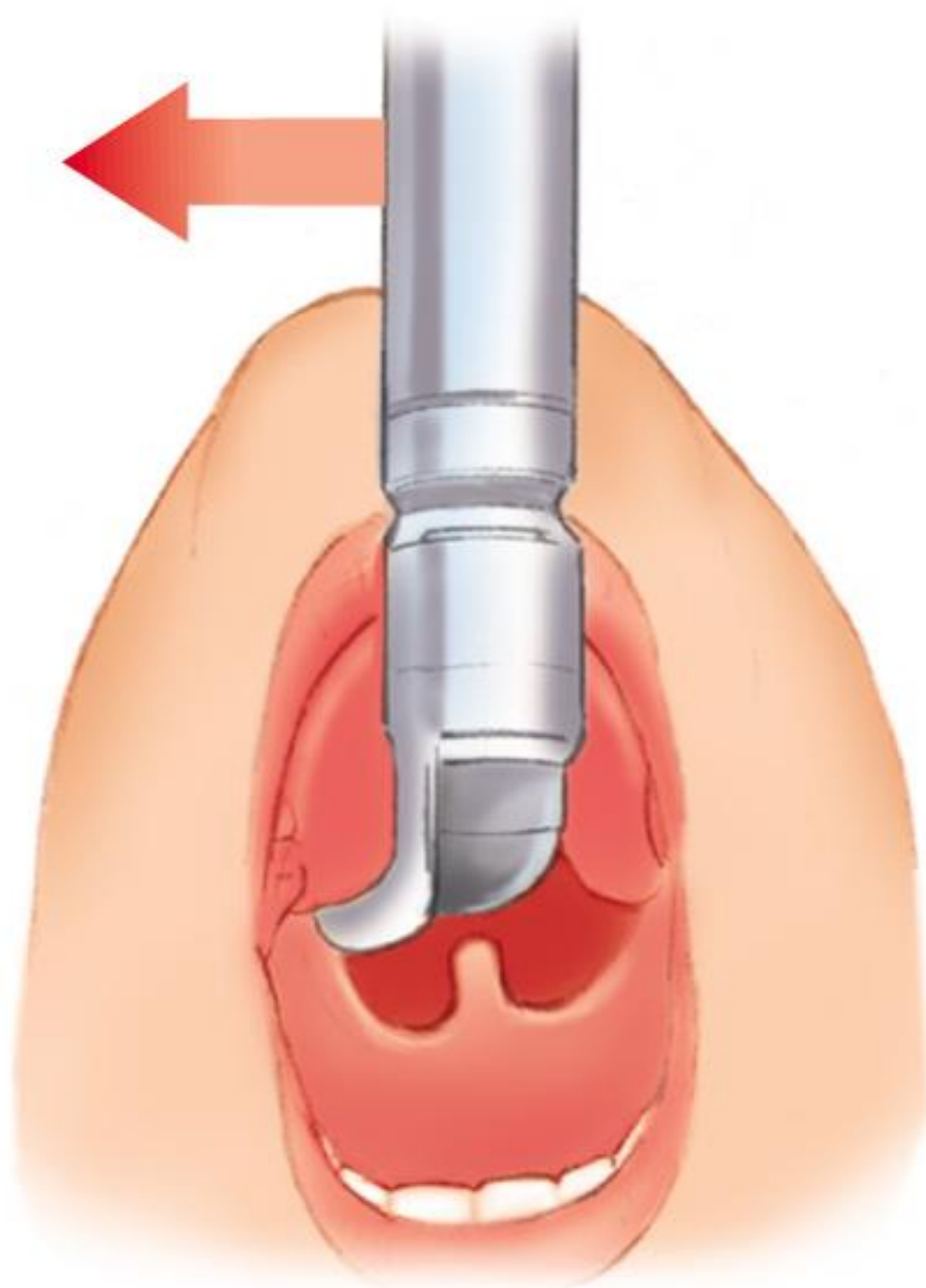


Prepare Laryngoscope



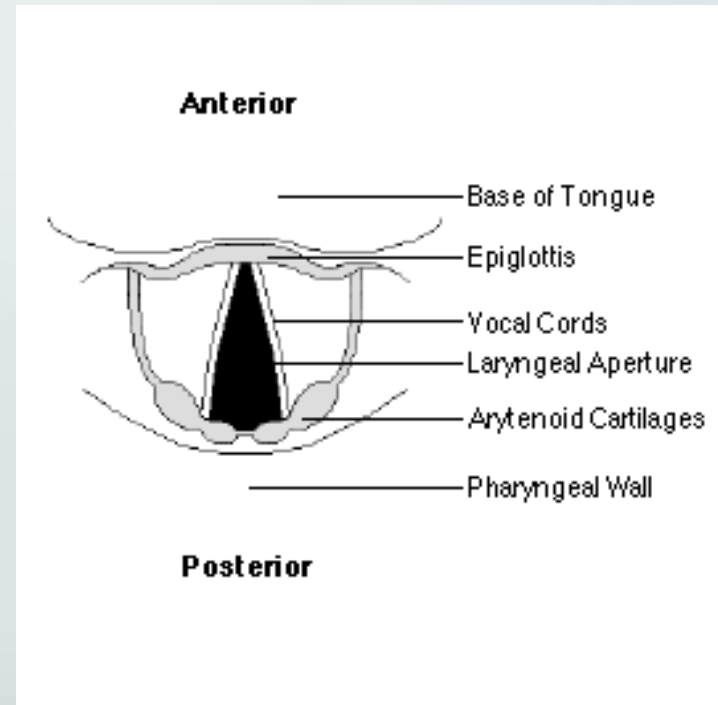
Laryngoscope Should Be In Your LEFT Hand

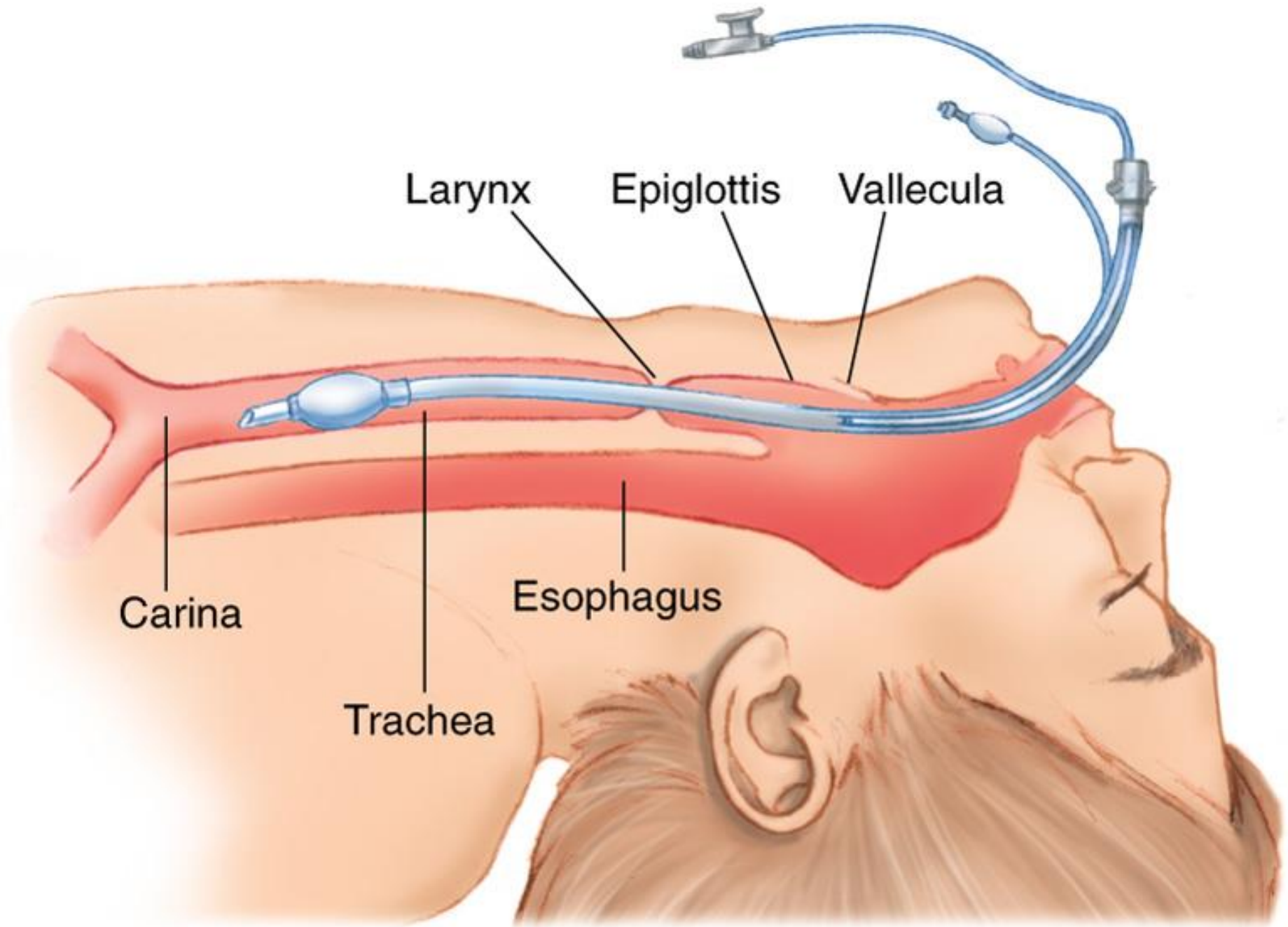




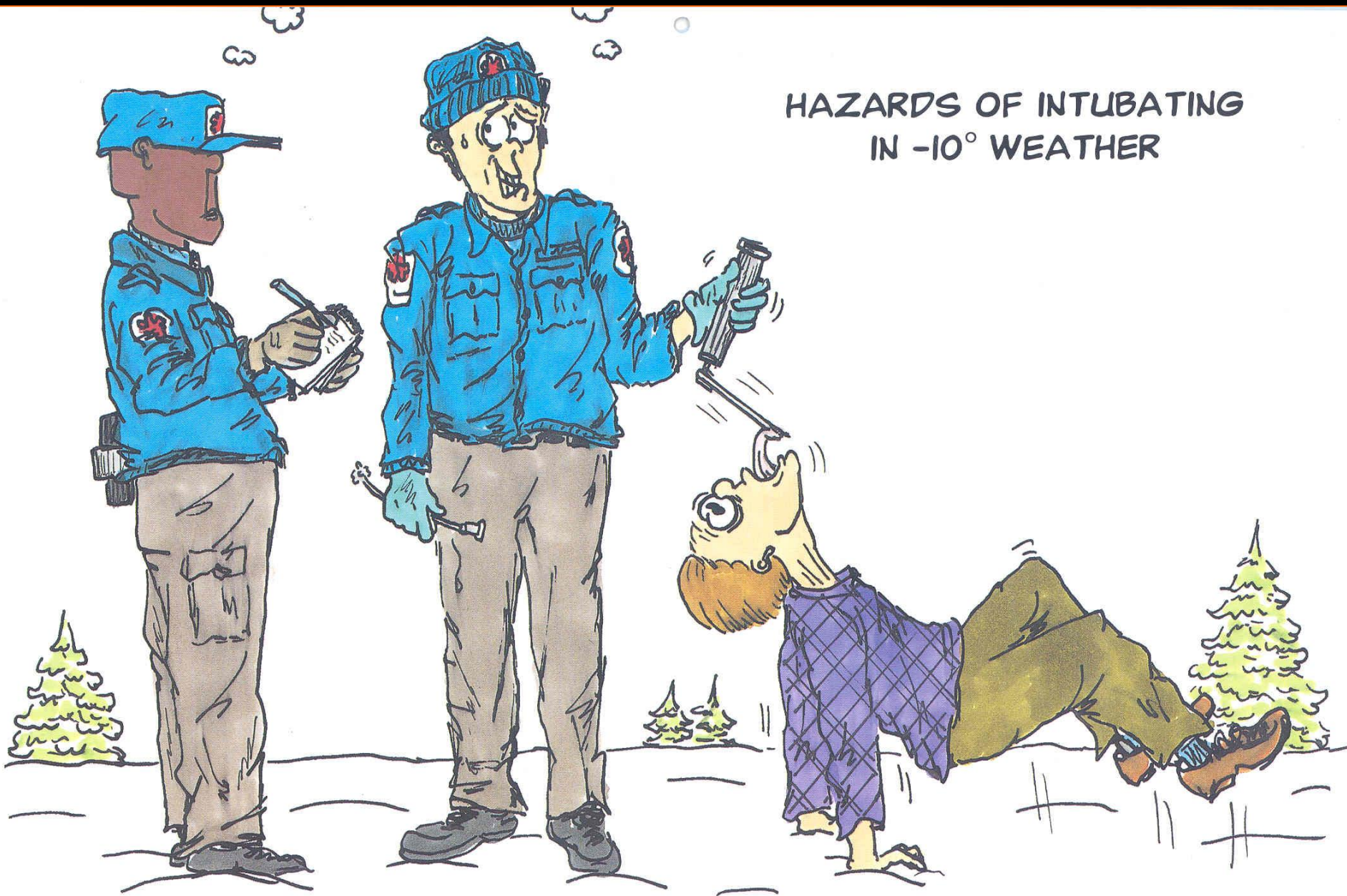
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Find Your Landmarks





HAZARDS OF INTUBATING
IN -10° WEATHER





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مانور سلیک

♣ فشار روی غضروف کریکوئید حدود 1 تا 5/1 سانت

✓ خطر آسیب‌رہ را کمتر می‌کند .

✓ دید را بهتر می‌کند .

Capnography

کاپنومتر سطح CO2 را می سنجد .
سطح طبیعی ۴۰ mmHg است.



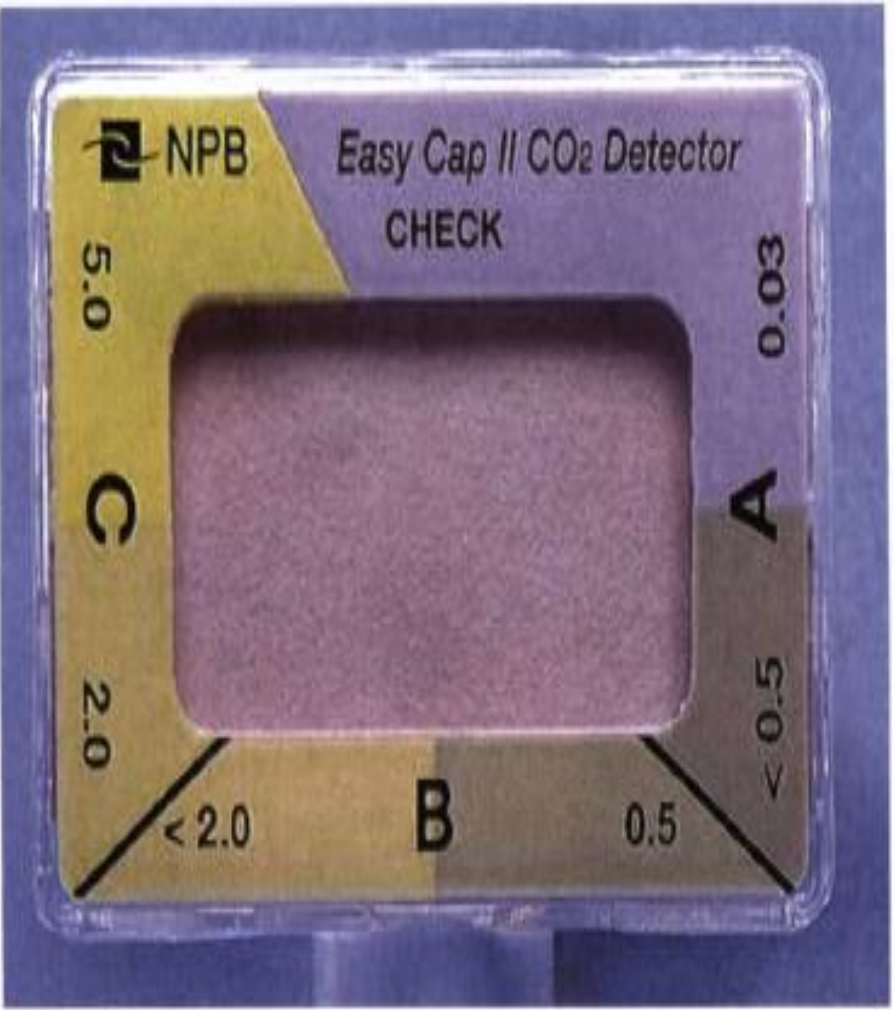
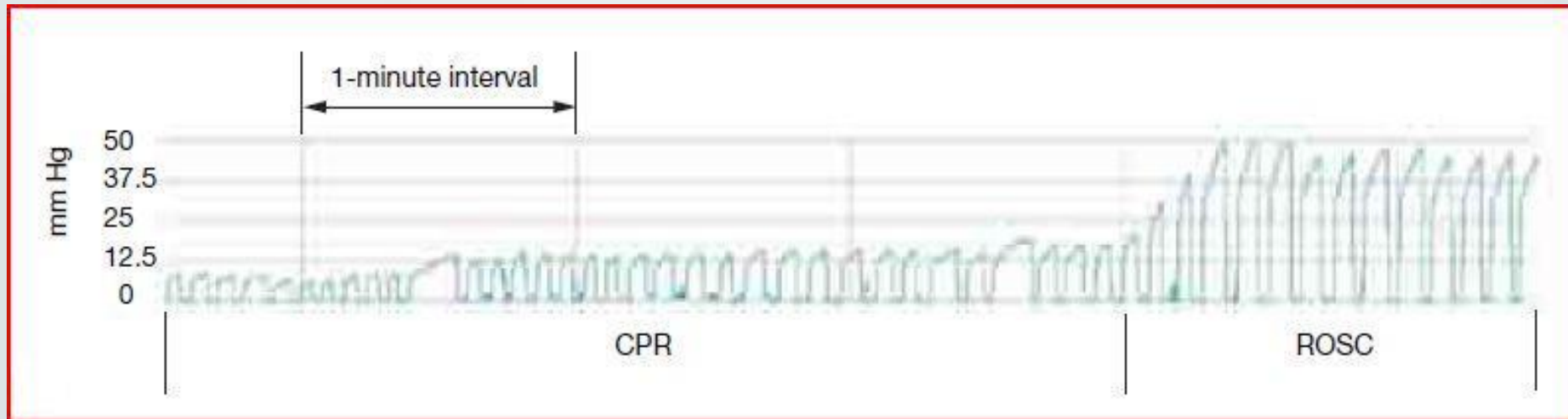


Figure 1-3. End-tidal CO₂ detector before application. The indicator is purple, which indicates failure to detect CO₂. This is the appearance when the esophagus is intubated.



Figure 1-4. Positive detection of CO₂ turns the indicator yellow, indicating tracheal placement of the endotracheal tube.

Capnography to monitor effectiveness of resuscitation efforts

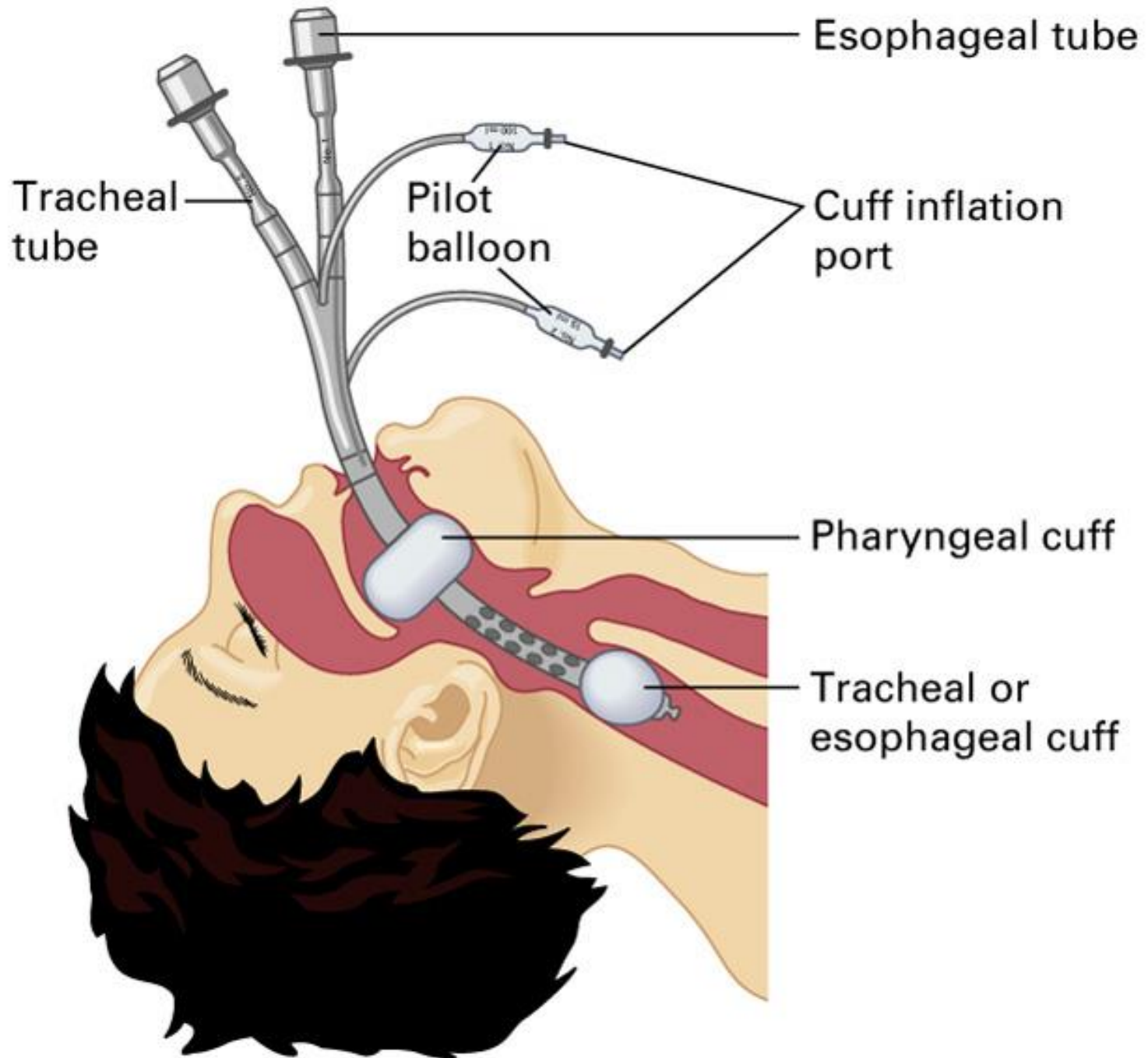


Esophageal/Tracheal Double Lumen Airway (**Combitube**[®])

Esophageal/Tracheal Double Lumen Airway (Combitube®)



**Indications and Use
for the
Prehospital Provider**



(b)

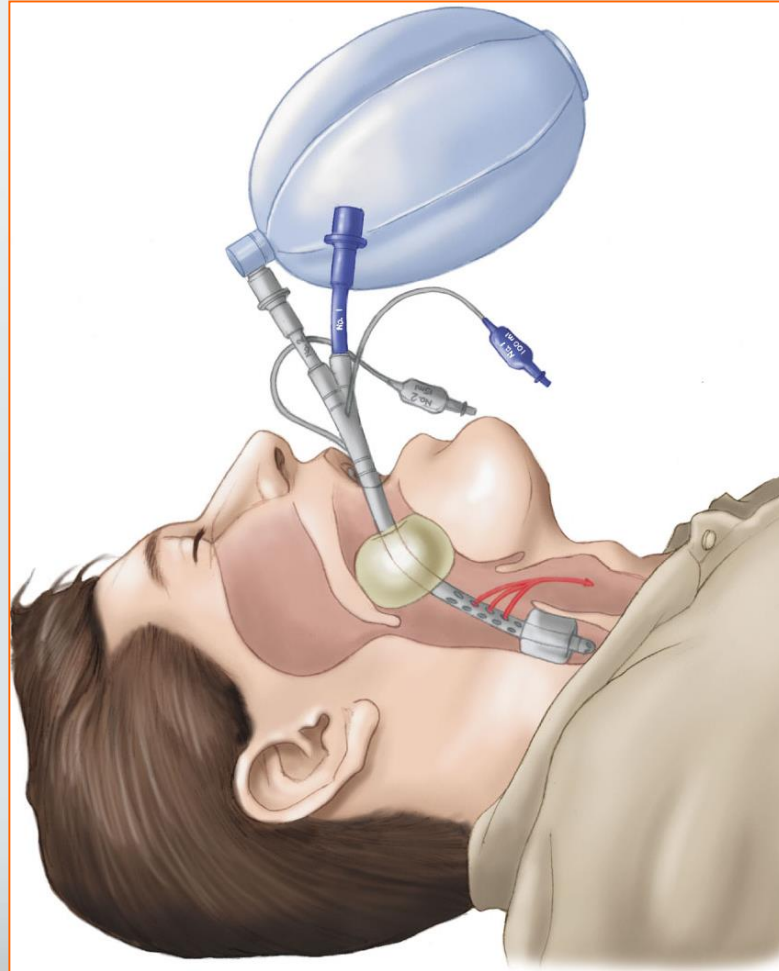
esophageal-tracheal **combitube**

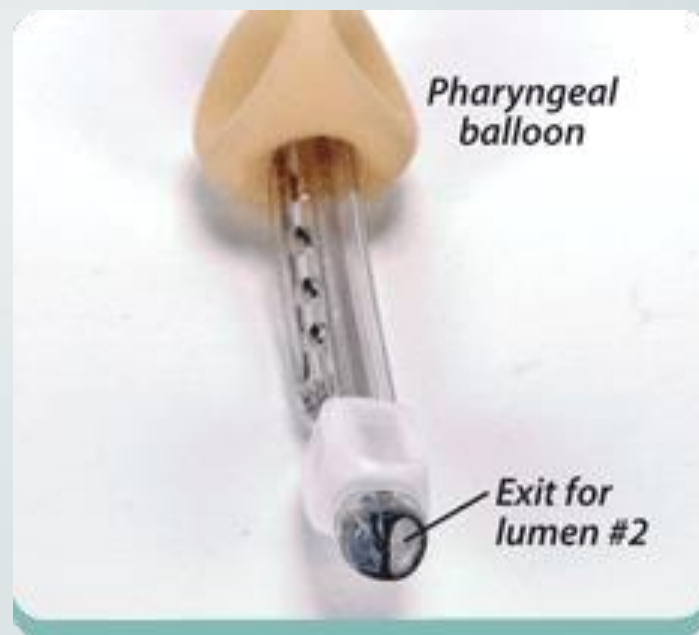
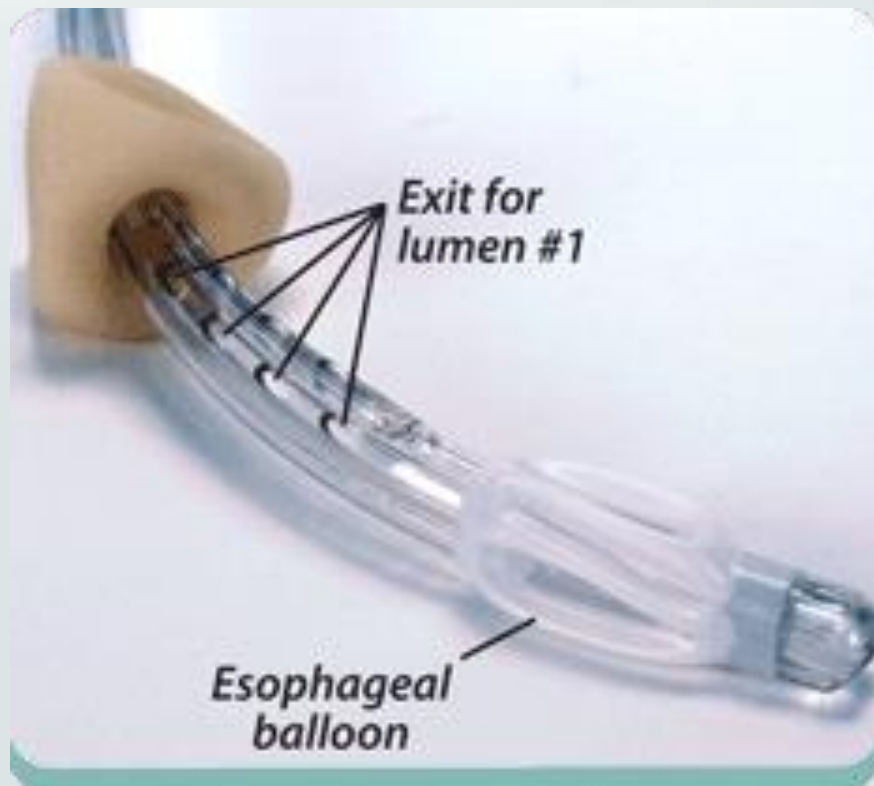
حالت‌های ممکن در استفاده از کامبی تیوب

۹۵٪ داخل مری

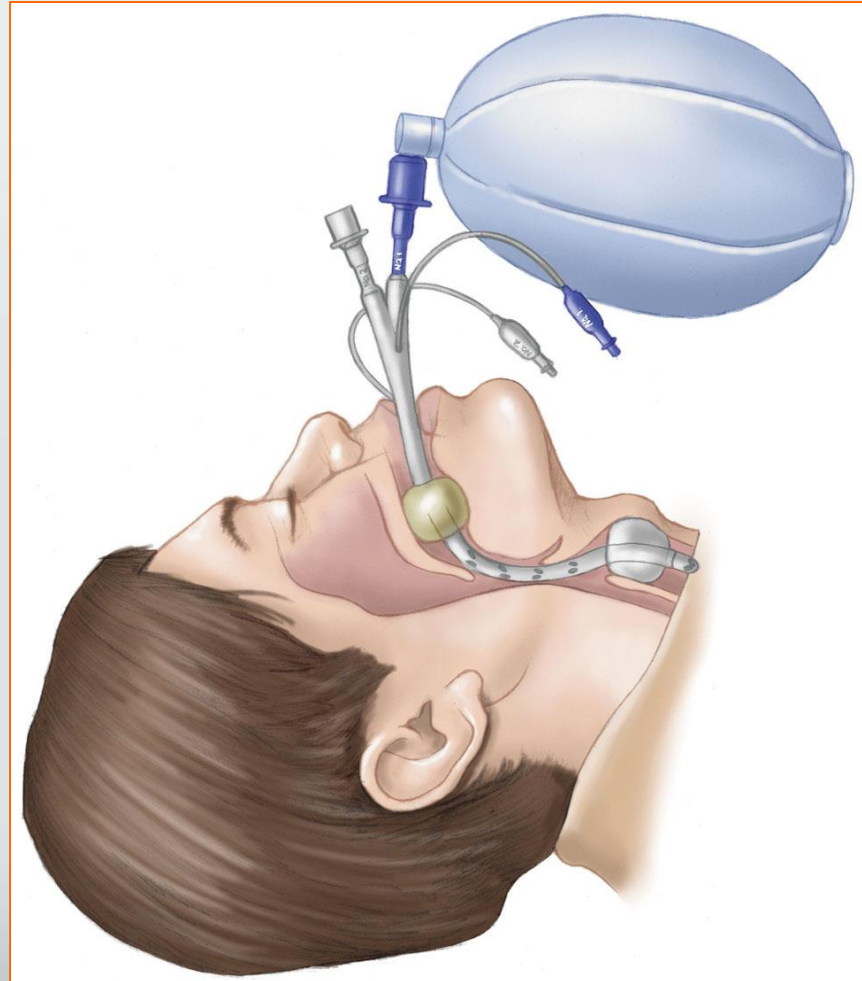
۵٪ داخل نای

ETC airway— esophageal placement





ETC airway— tracheal placement



Indications

- Respiratory failure in an unconscious patient without an intact **gag reflex**
- Secondary method of airway management for paramedics when **orotracheal intubation** is not possible
- Primary method of airway management for **EMT-B's** (where allowed by local protocols)

Contraindications

The patient has an intact **gag-reflex**

The patient is less than **5 feet tall** or under **16** years old

The patient has known **esophageal disease**

The patient has ingested a **chemical substance**

Burns involving the airway

The patient has an allergy or sensitivity to **latex**
(the pharyngeal balloon contains latex)

Insertion Procedures

- Inflate both balloons prior to insertion to **test** the integrity of the balloons
- Should either balloon fail after insertion, maintenance of the patient's airway cannot be assured



Insertion Procedures

- Place the patient in a **supine position**
- Provide artificial ventilation via BVM and **hyperventilate** the patient with 100% oxygen prior to device insertion



Insertion Procedures

- Position the patient's neck in a **neutral position**.
- **Lubricate** the tube with sterile, water soluble lubricant
- Lift the tongue and lower jaw upward to **open the oropharynx**



Insertion Procedures

- **Insert** the Combitube so that it curves in the same direction as the natural curvature of the pharynx
- If resistance is met, withdraw tube and attempt to reinsert



Insertion Procedures

Advance tube until
the patient's
teeth are
between the two
black lines



Insertion Procedures

Inflate the #1 blue pilot cuff with 100ml of air from the large syringe



Insertion Procedures

Inflate the #2 white pilot cuff with 15ml of air from the small syringe



Insertion Procedures

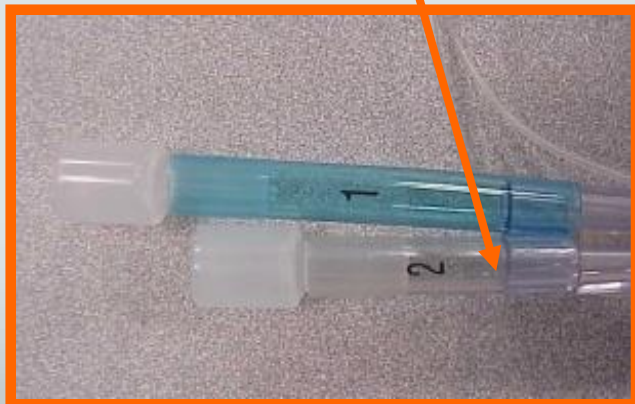
Begin ventilation through the longer blue tube labeled #1.

If auscultation of breath sounds is good and gastric inflation is negative, continue.



Insertion Procedures

If auscultation of breath sounds is **absent** and gastric inflation is **positive**, then begin ventilation through the shorter clear tube labeled #2



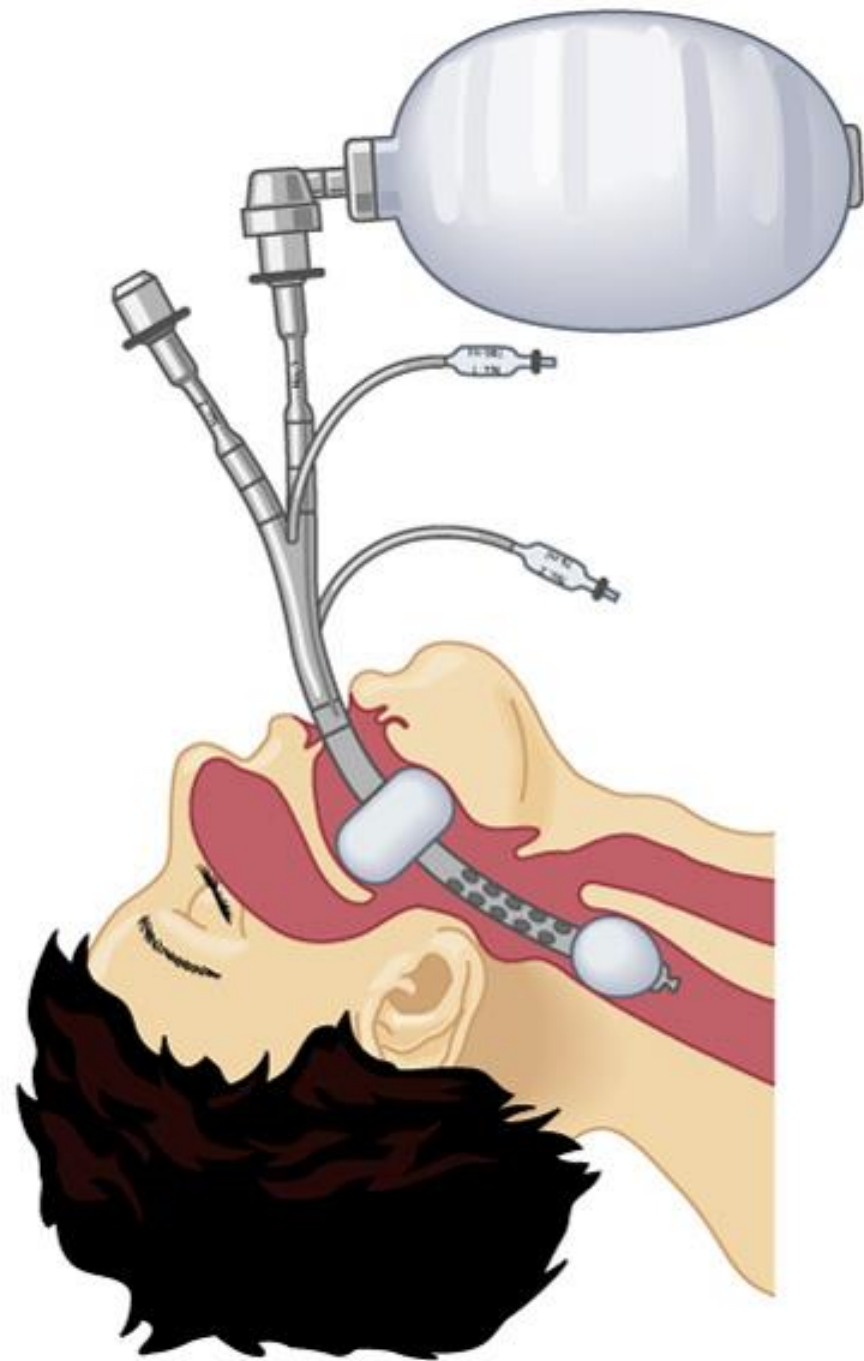




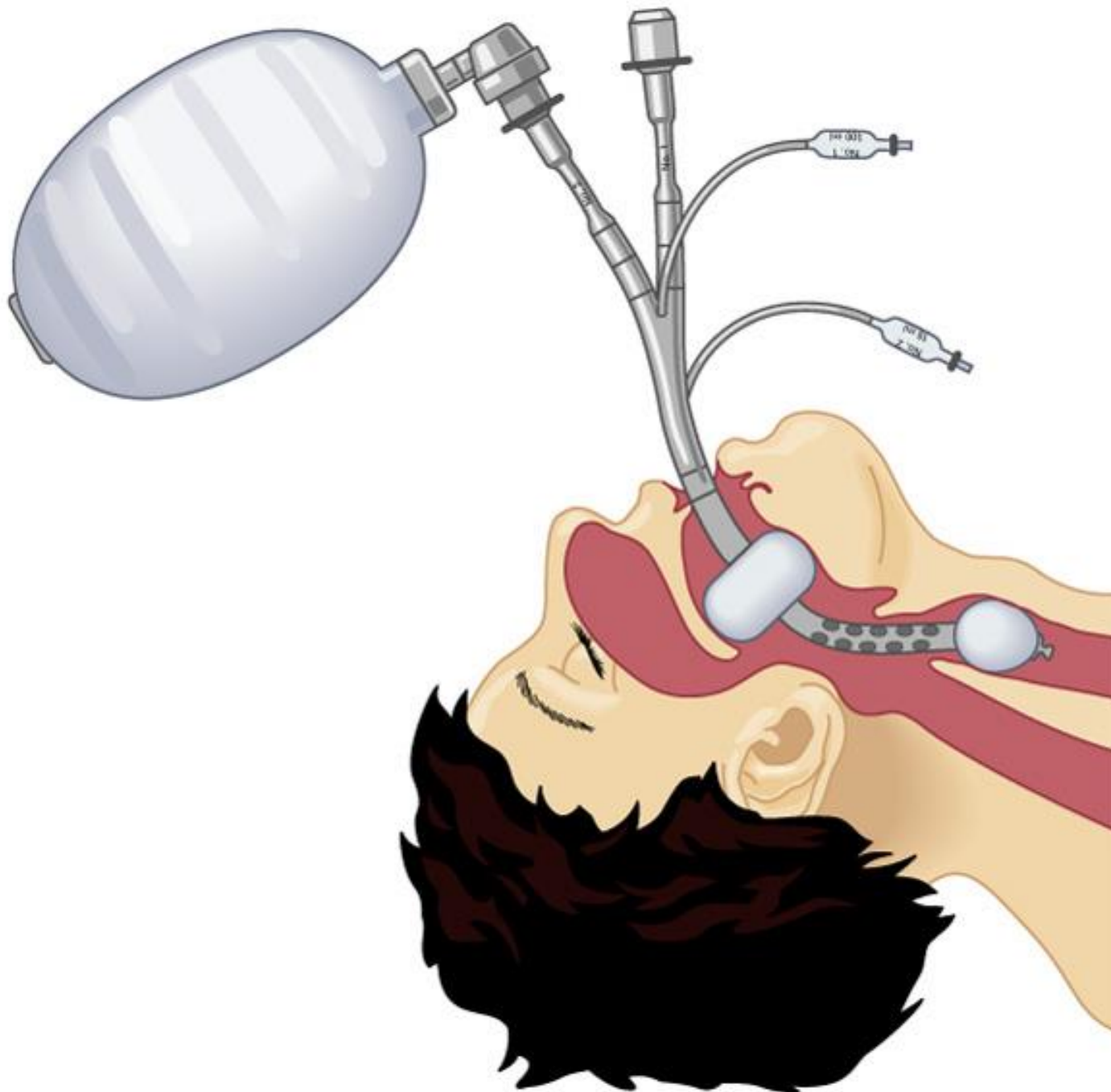
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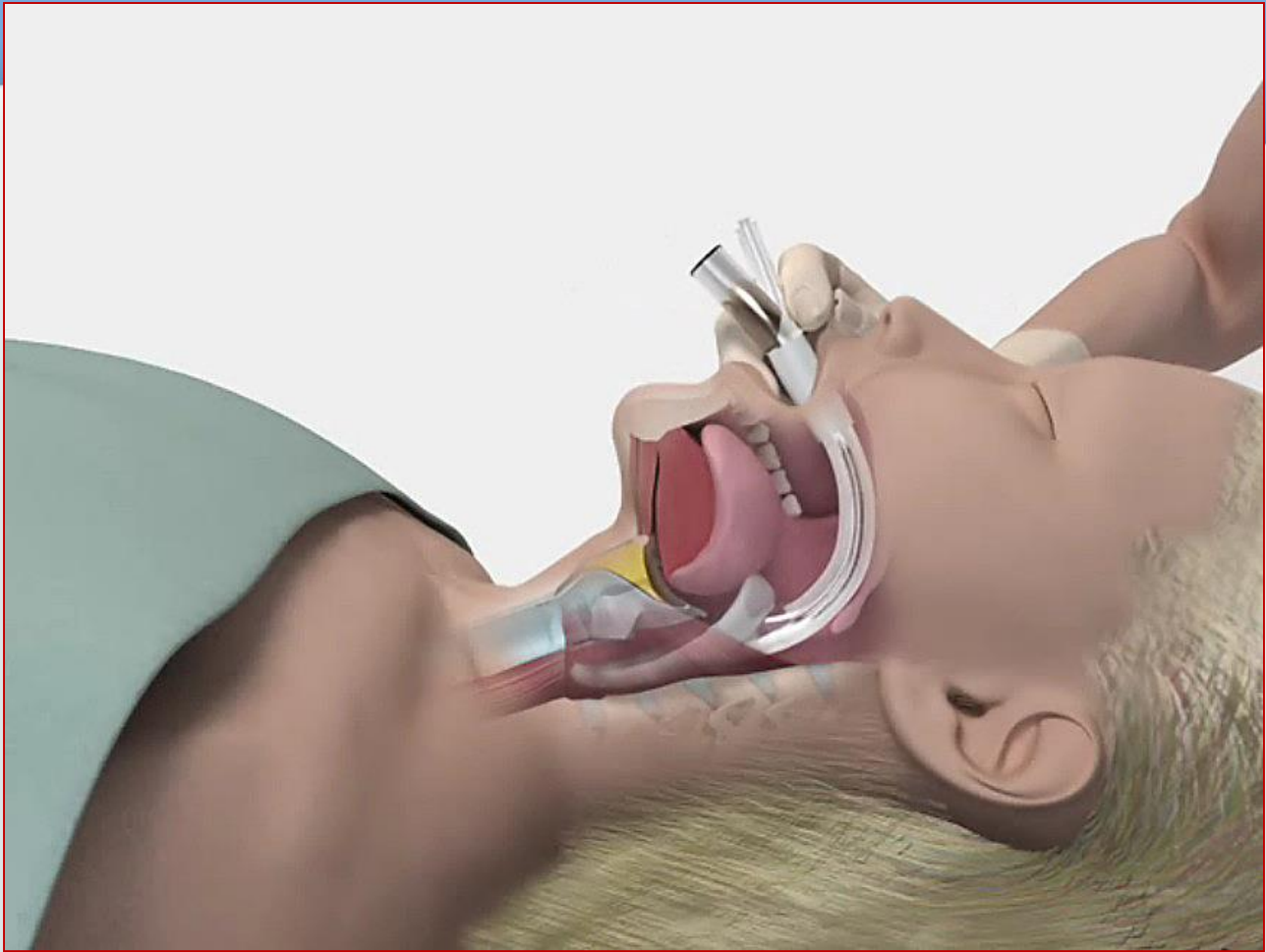
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Laryngeal mask airway

LMA

LMA







SIZE	PATIENT
1	<5 kg
1.5	5-10kg
2	10-20kg
2.5	20-30kg
3	30-50kg
4	50-70kg
5	70-100kg
6	>100kg



(a)

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(b)

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