INITIAL ASSESSMENT
OF THE TRAUMA PATIENT

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The TRAUMA TEAM

Concepts of Initial Assessment

- **Rapid Primary Survey**
- **Resuscitation**
- **Detailed Secondary Survey**
- **Re-evaluation**
- **Initiate Definitive Care**

Concepts of Initial Assessment

Triage

Sorting of Patients According to ABCs and Available Resources

Concepts of Initial Assessment

Primary Survey

Adult / Pediatric priorities – Same

- **A - Airway with C-Spine Control**
- **B - Breathing**
- **C - Circulation With Hemorrhage Control**
- **D - Disability: Neurologic Status**
- **E - Exposure / Environment**

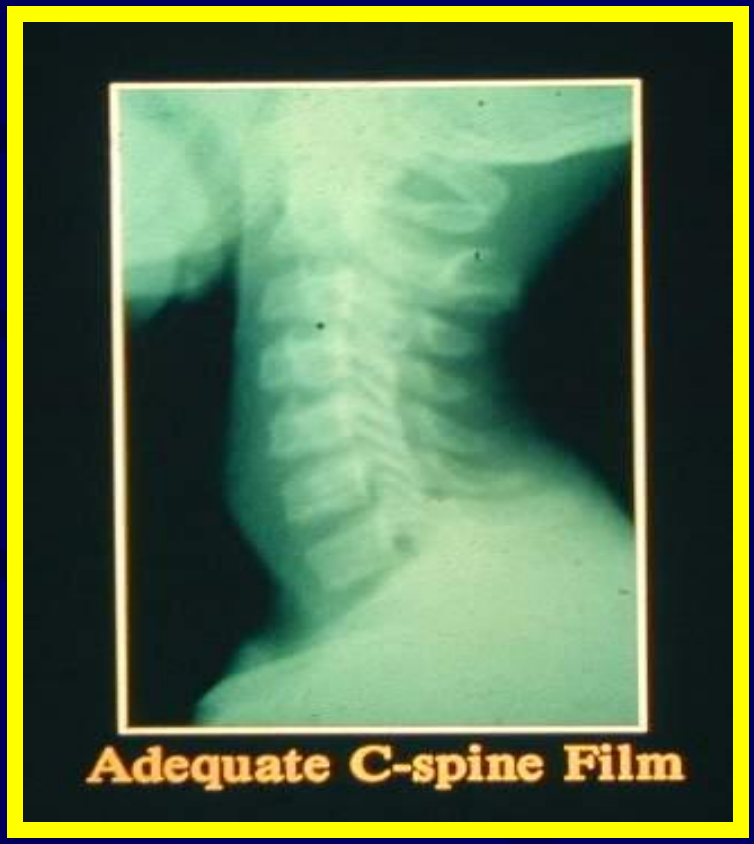
Concepts of Initial Assessment

Primary Survey

Establish Airway

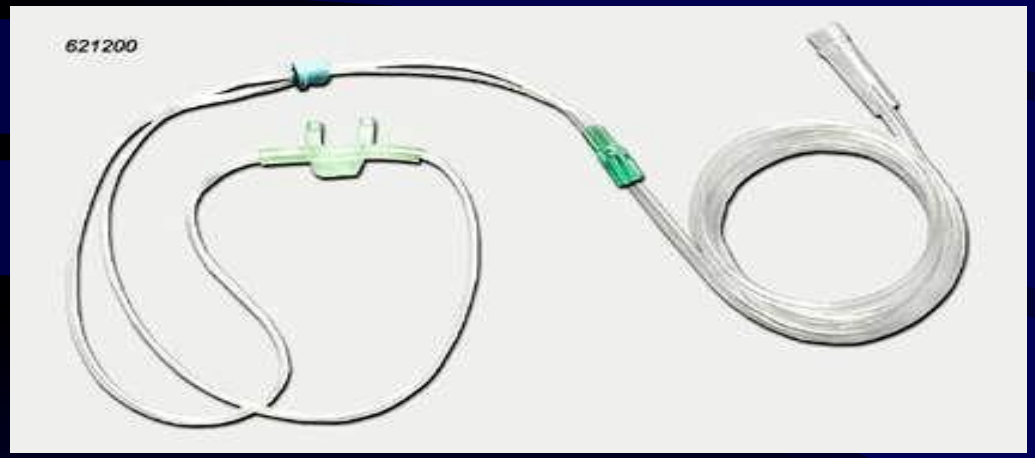
Caution

Cervical Spine Injury



Airway Management

Nasal Cannula or Catheter



Flow O2(l/min)	%O2
2	28
3	32
4	36
5	40
6	44

Oxygen Mask

Flow O2	%O2
5-6	40
6-7	50
7-8	60

Mask with Reservoir Bag

Flow O2	%O2
6	60
7	70
8	80
9	80+
10	80+

Venturi Mask

- FiO2 from 0.24 to 0.40

The Patient Condition

1. Conscious
2. Partially/ fully unconscious

- A. Spontaneous respiration
  1. Occluded/ obstructed
  2. Inadequate
- B. Apneic

Signs and Symptoms of Airway Obstruction

- Noisy breathing
- Effort of breathing: tracheal tugging, intercostal recession, abdominal see-saw movement
- Increased use of respiratory muscles
- Apnea (late)
- Cyanosis (late)

Basic Management of Airway Obstruction

1. Chin lift and head tilt.
2. Jaw thrust.
3. Both maneuvers.
4. Oro/nasopharingeral airways.
5. Heimlich maneuver, suction etc.
6. Ventilation via mask and AMBU.

Head Tilt/ Chin Lift

Jaw Thrust

Modified Jaw Thrust

- Used when possibility of C-spine injury exists
- Grasp the angles of the patient's lower jaw and lift with both hands, displacing the mandible forward
- If the lips close, retreat the lower lip with thumb

Heimlich Maneuver

Cover your fist with your other hand and thrust up and in with sufficient force to lift the victim off his feet

Modes of ventilation

- Mouth-to-mouse/ mouth-to-nose
- Mouth-to-mask
- Bag-valve device
- Transtracheal jet-ventilation
- Automatic transport ventilators

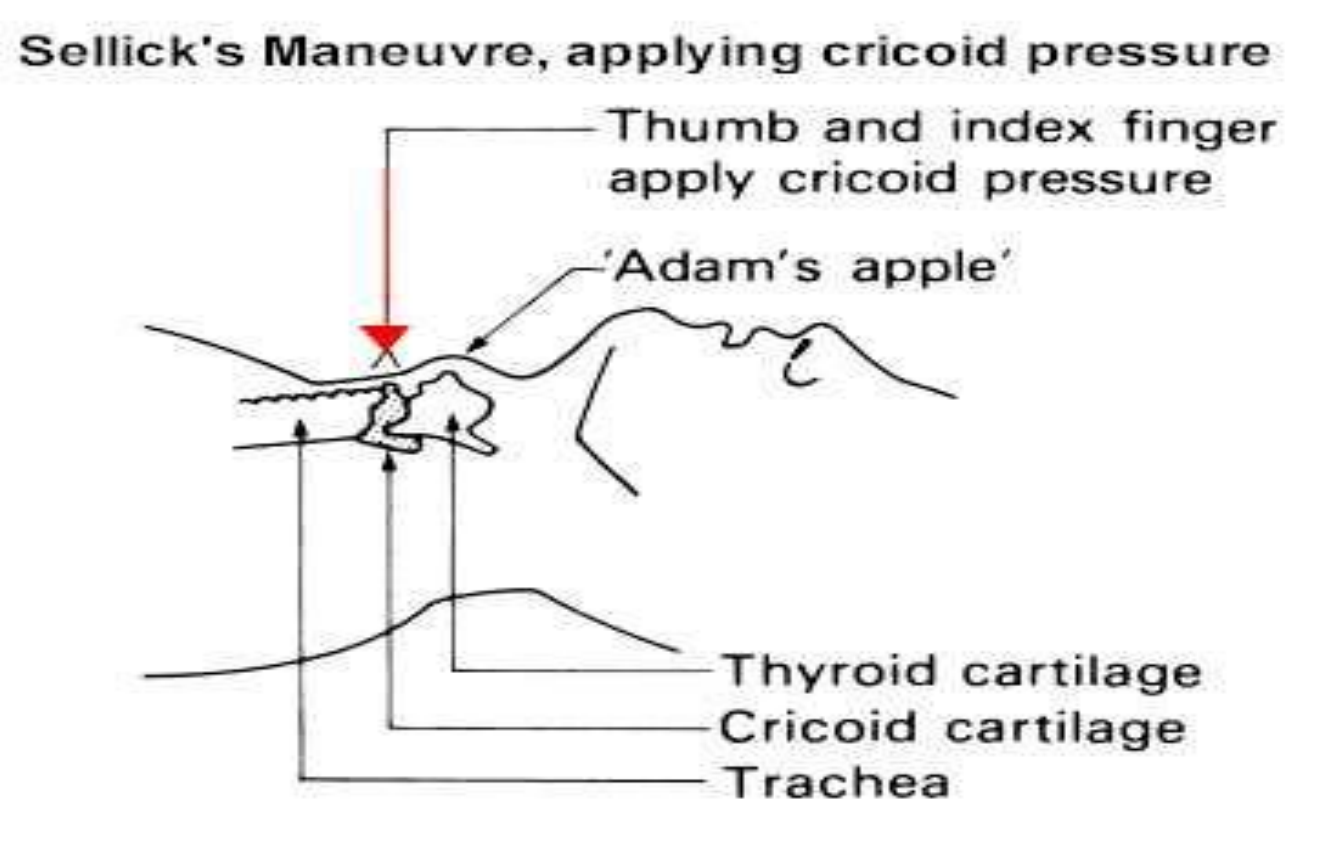
Indications for securing an airway with an Endotracheal tube

Definitive airway

The technique for rapid- sequence intubation is as follows:

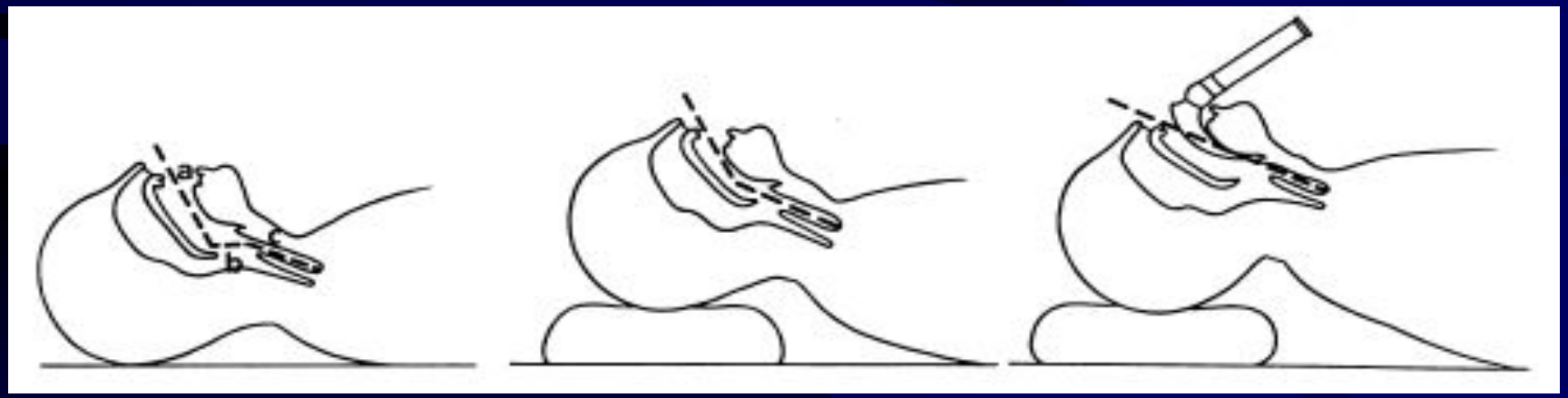
1. Preoxygenate the patient with 100% oxygen
2. Apply pressure over the cricoid cartilage
3. Administer 1-2 mg/kg succinylcholine I.v.
4. After the patient relaxes, intubate the patient orotracheally
5. Inflate the cuff and confirm tube placement (auscultate the patient's chest and determine of CO2 in exhaled air)
6. Release cricoid pressure
7. Ventilate the patient

Cricoid Pressure

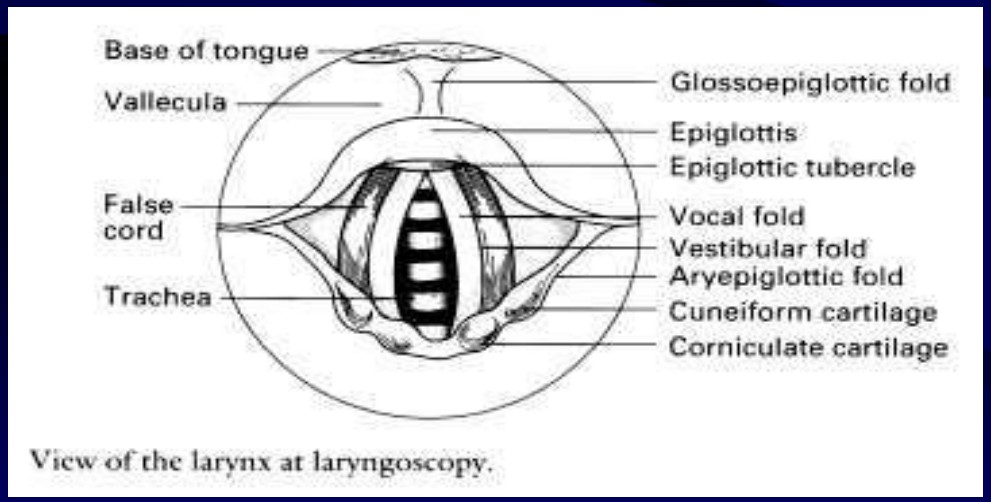


“Sniffing Position”

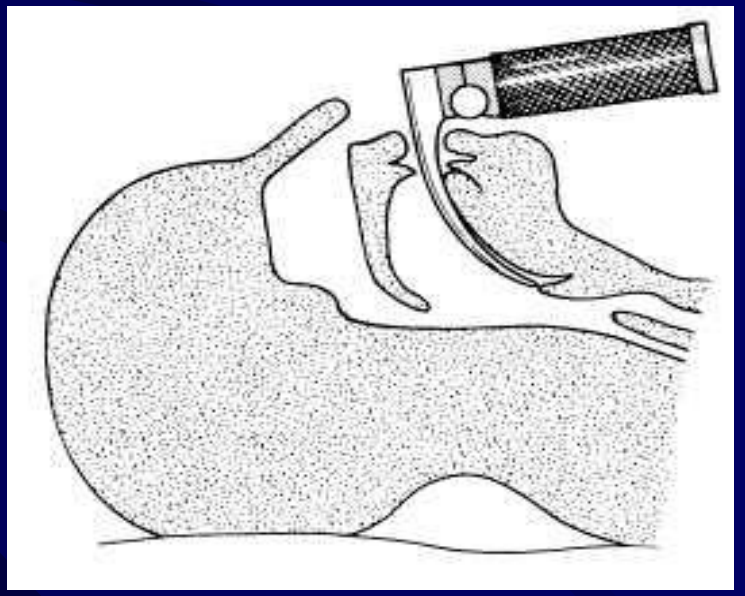
- *Remember about C-spine protection!!!*



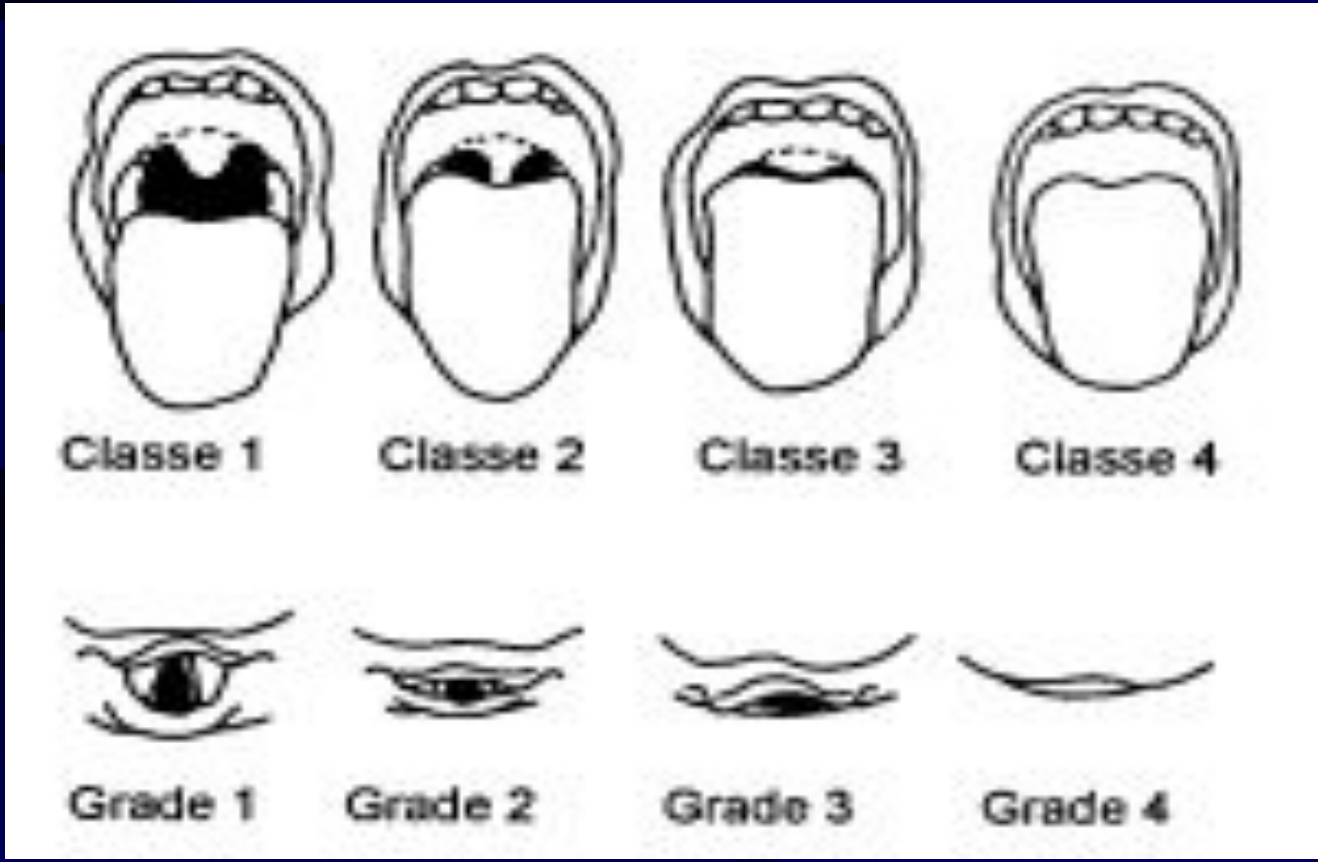
Endotracheal Intubation



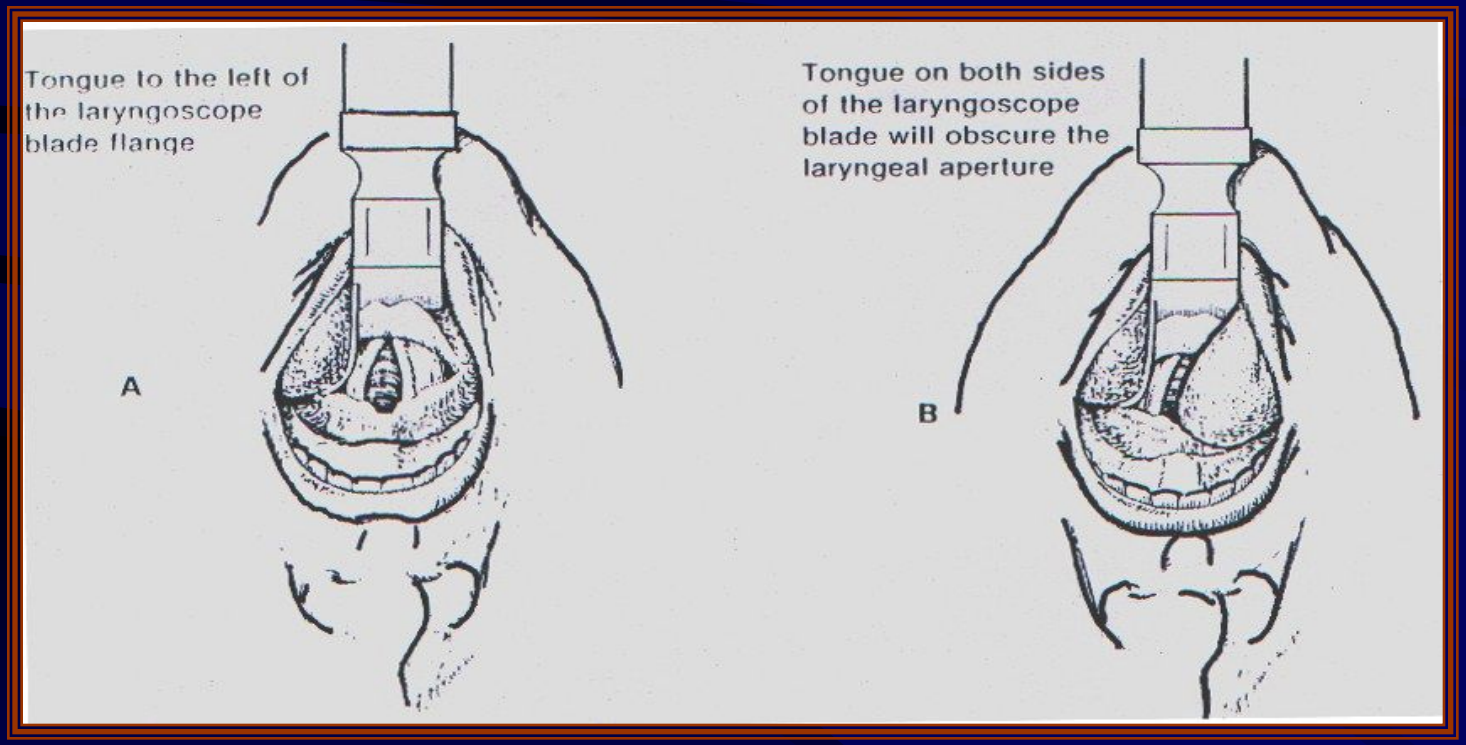
View of the larynx at laryngoscopy.



Endotracheal Intubation

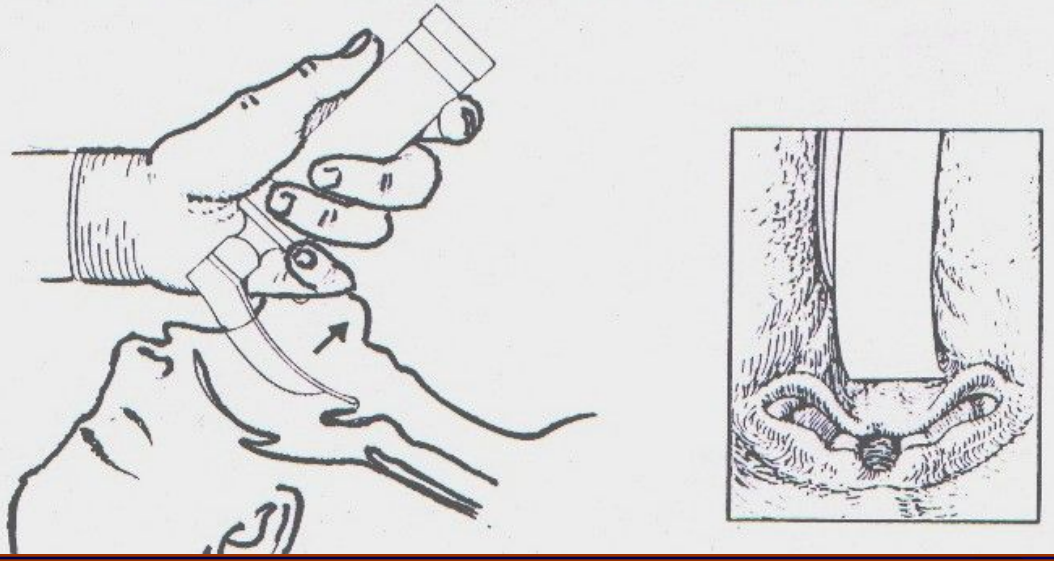


Endotracheal Intubation

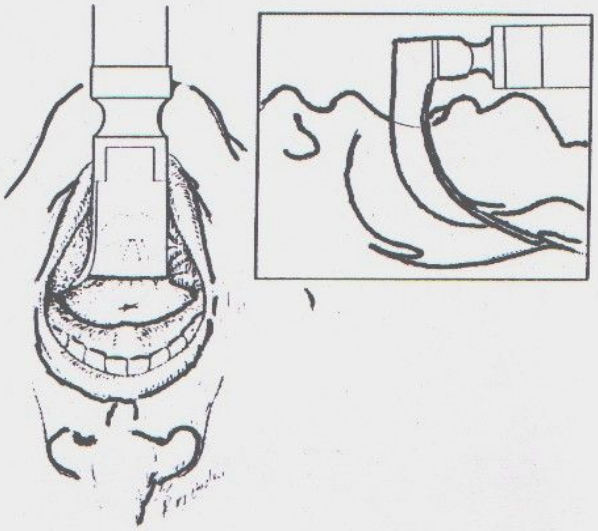


Endotracheal Intubation

Insertion of the laryngoscope blade too deeply into the vallecula can push the epiglottis over the laryngeal aperture

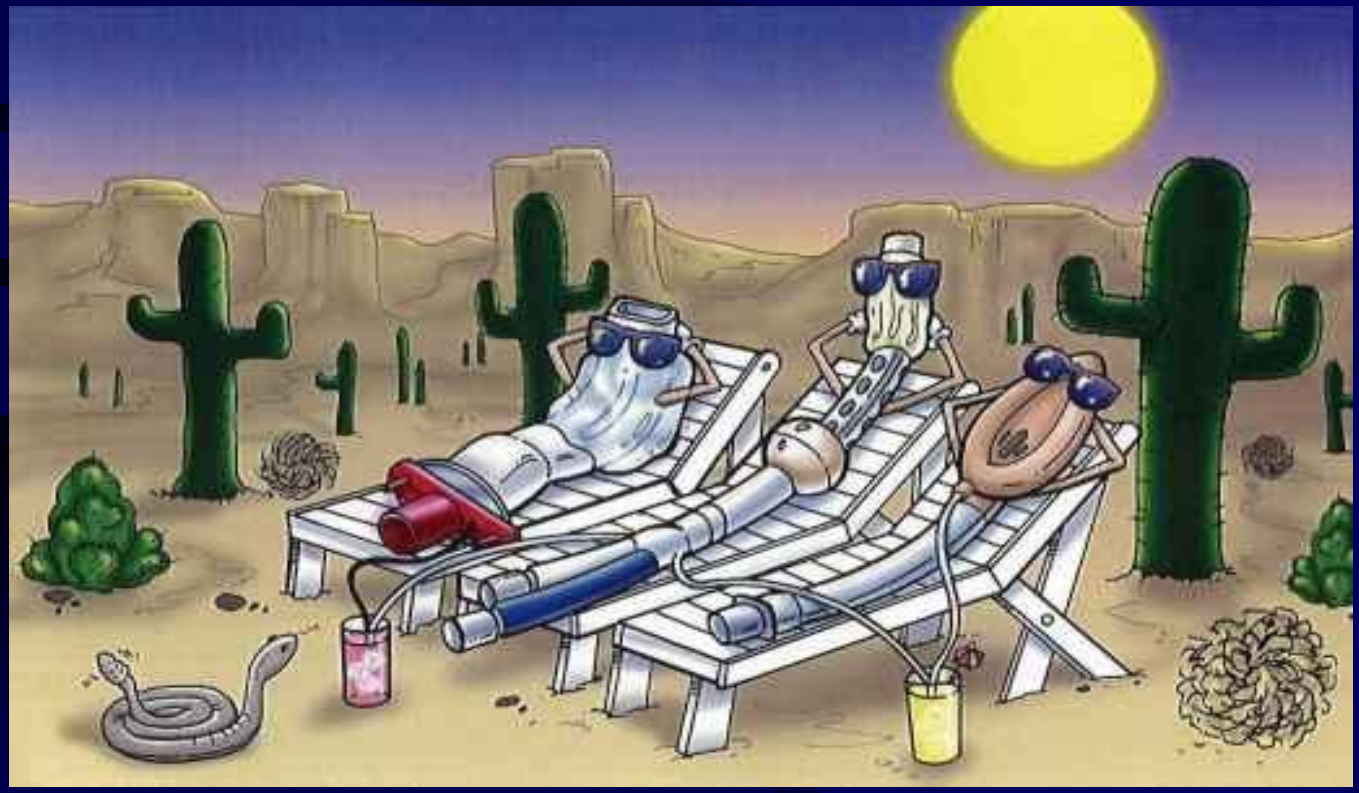


Insertion of the Laryngoscope Blade Too Deeply into the Pharynx Elevates the Larynx and Exposes the Esophagus



Endotracheal Intubation

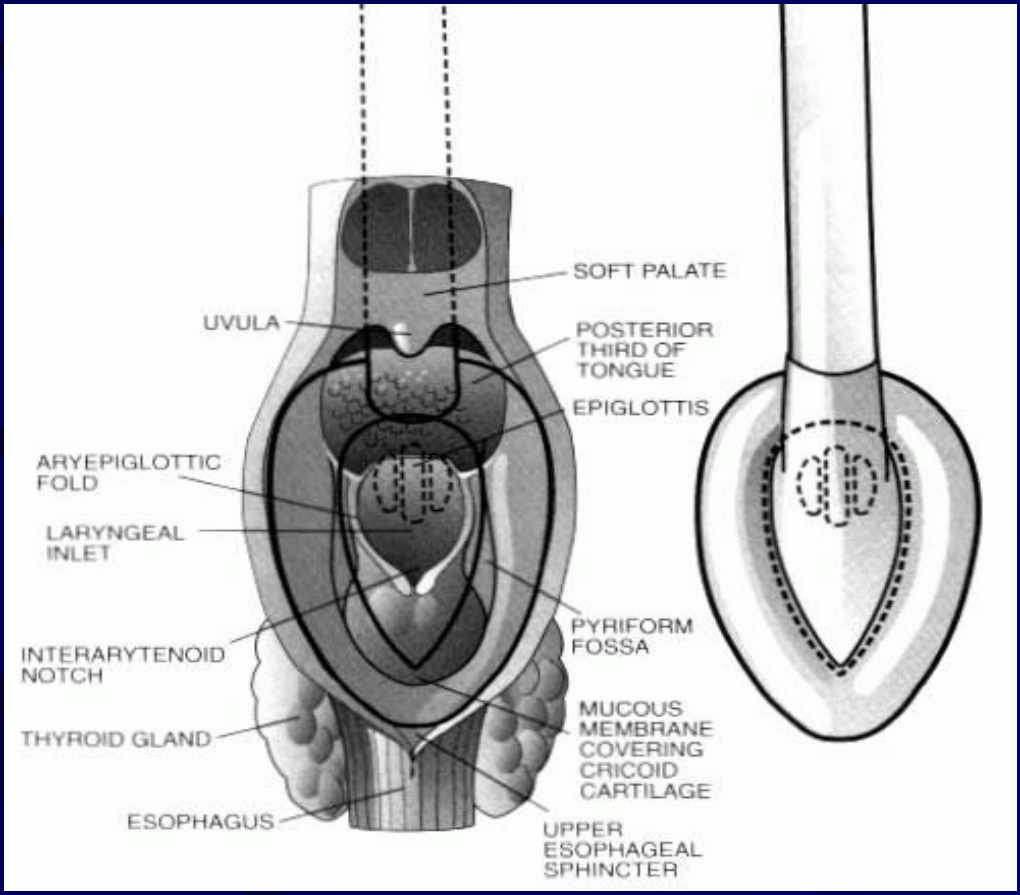
Alternatives to Endotracheal Intubation



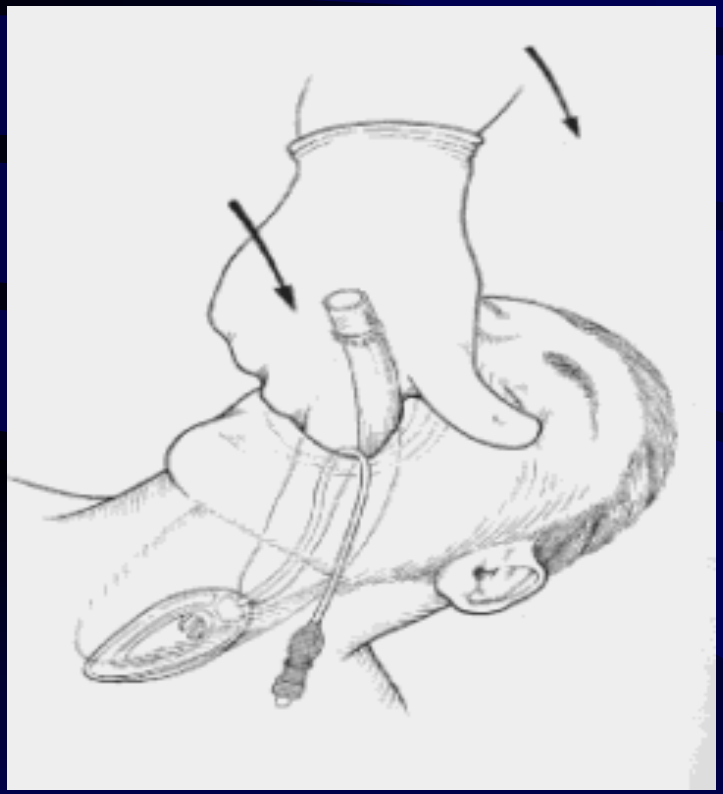
Alternatives to Endotracheal Intubation

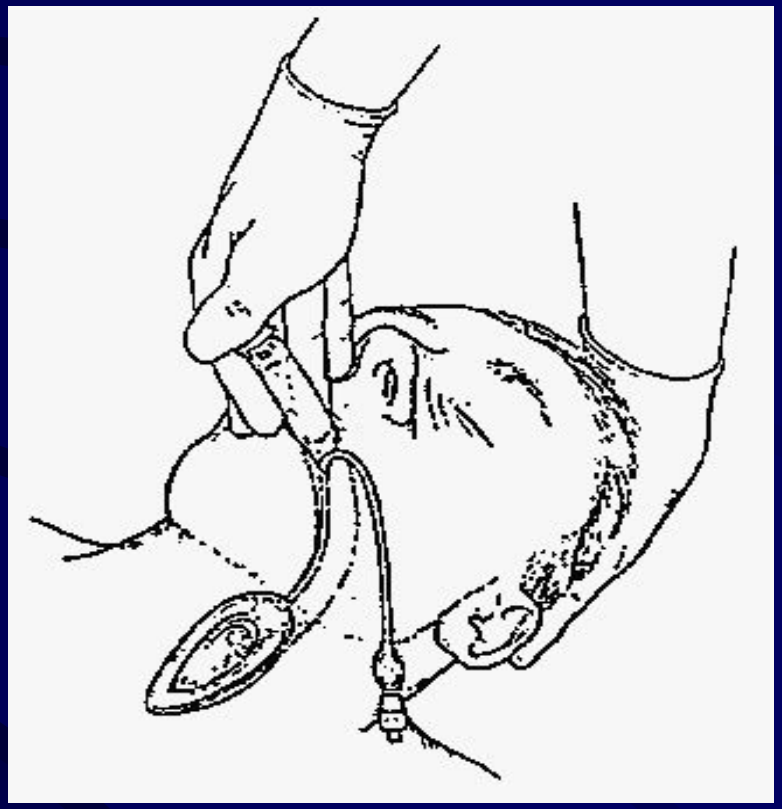
- Oropharyngeal airway
- Nasopharyngeal airway
- Laryngeal mask airway
- Esophageal-tracheal Combitube®
- Crycothyrotomy
- Tracheostomy

Laryngeal Mask Airway



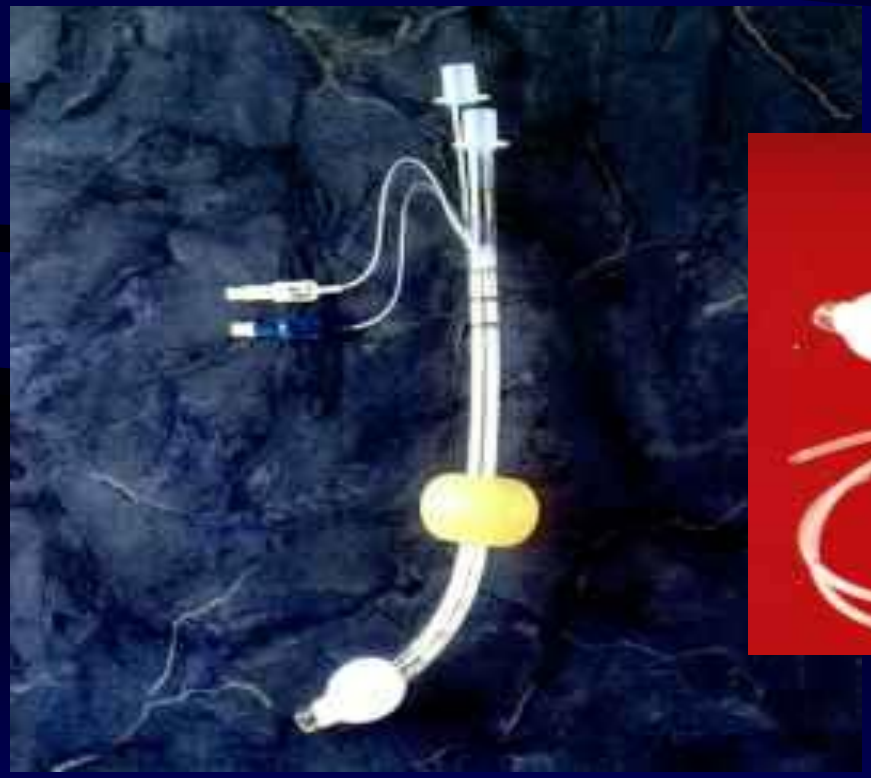
LMA



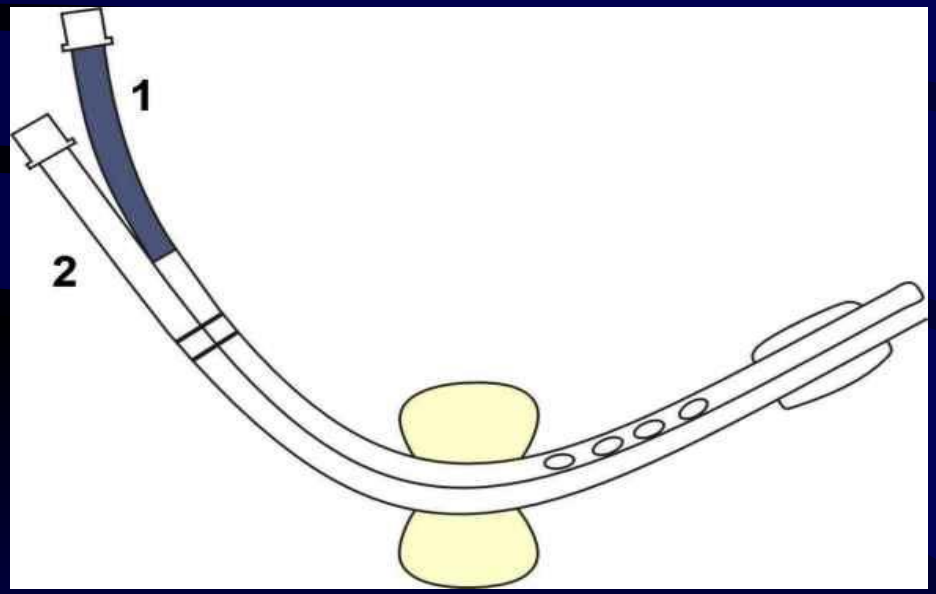


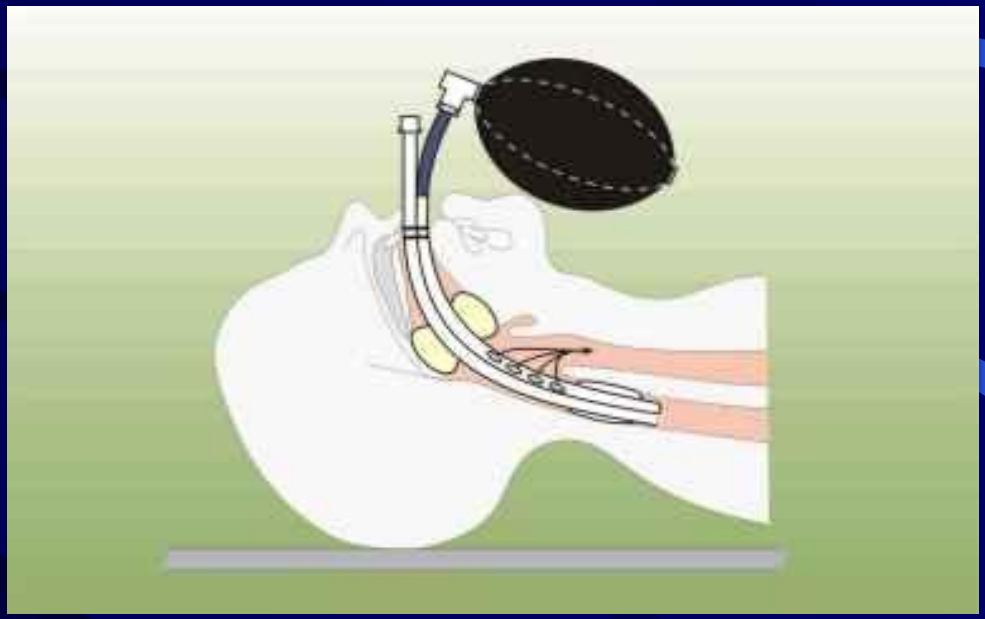
Fast-track LMA®

Combitube®

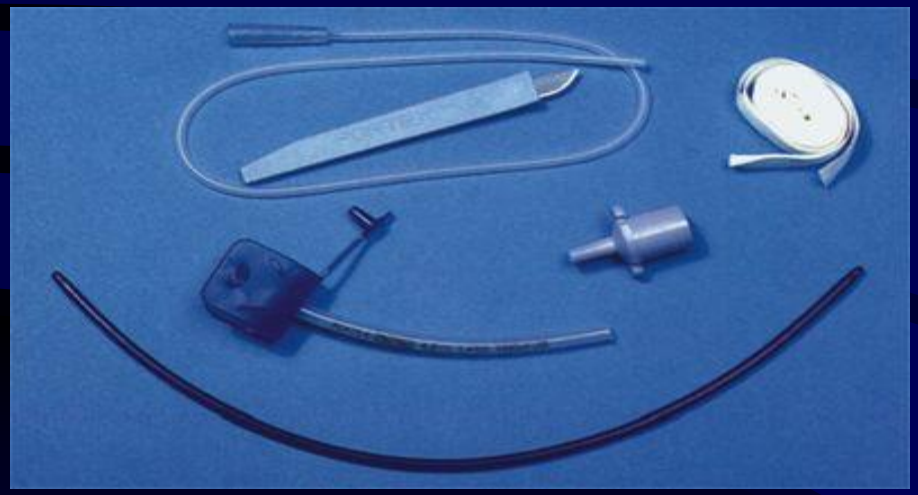


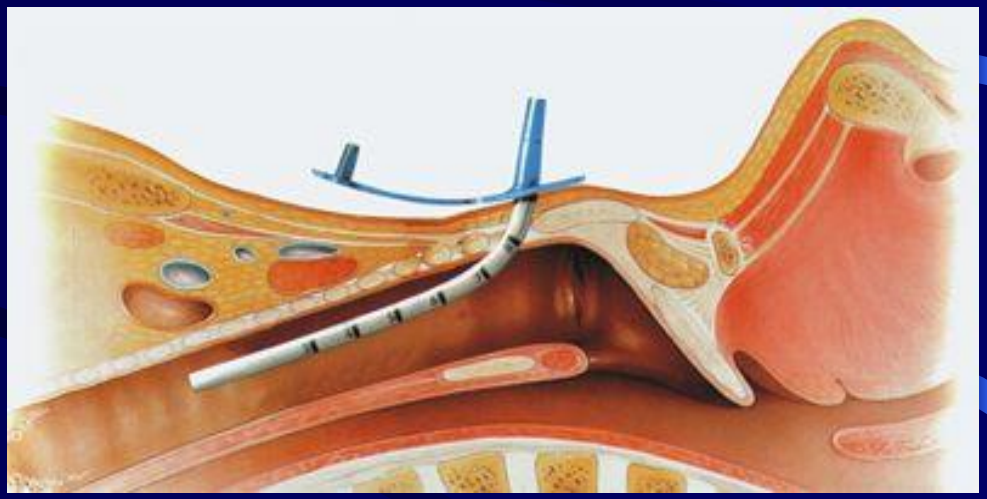
Combitube®





Crycothyrotomy





Tracheostomy

Concepts of Initial Assessment

Primary Survey

Assume C-Spine Injury !!

- **Multi System Trauma**
- **Altered Level of Conciousness**
- **Blunt Injury Above Clavicles**

Concepts of Initial Assessment

Primary Survey

Circulation

- **Assess Blood Volume Loss and Cardiac Output**
- **Level of Cociousness**
- **Skin Color**
- **Pulse**

Concepts of Initial Assessment

Primary Survey

Disability:

Neurological Evaluation

- **Level of Conciousness**
  - **A - Alert**
  - **V – Response To Voice**
  - **P - Response To Pain**
  - **U - Unresponsive**
- **Pupils**

Concepts of Initial Assessment

Primary Survey

Exposure / Environment

- **Undress Pt Completely**
- **Protect from Hypothermia**

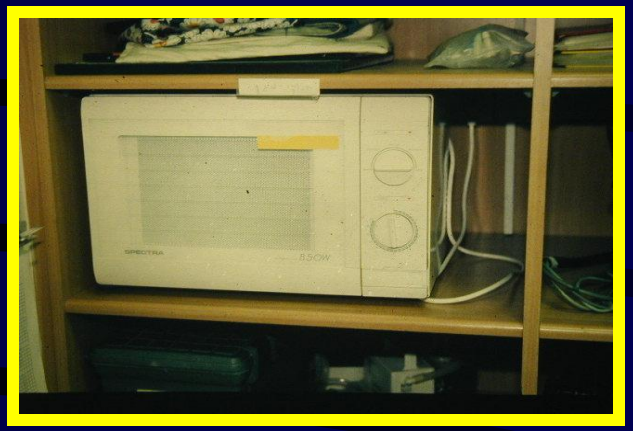
Concepts of Initial Assessment

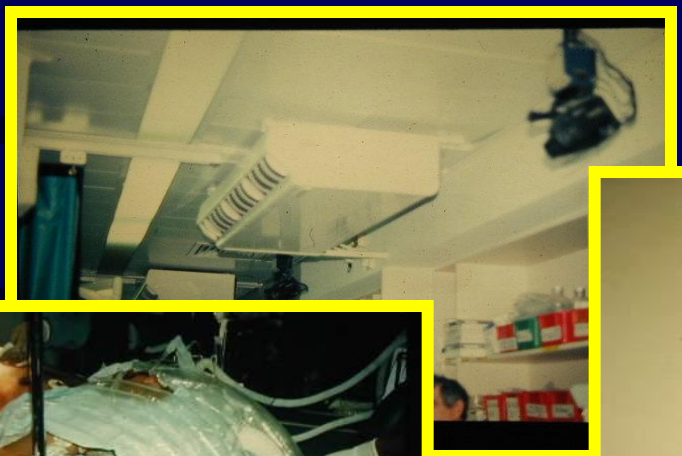
Resuscitation

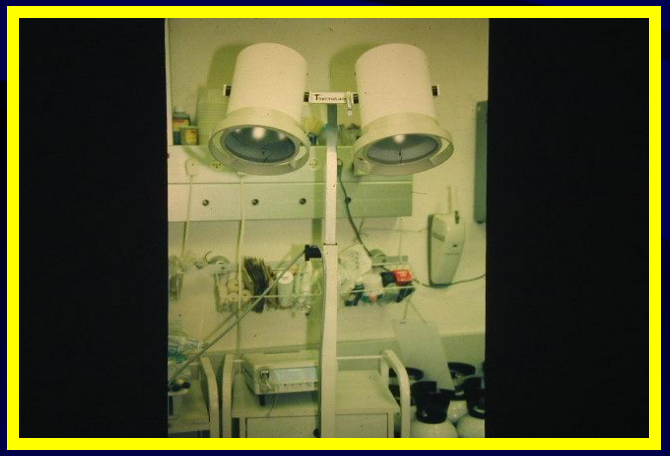
- **Protect / Secure Airway**
- **Ventilate / Oxygenate**
- **Fluid Therapy – New concept ??!!**
- **Protect from Hypothermia**
- ***Caution:*** **Urinary / Gastric Catheters Unless Contraindicated**

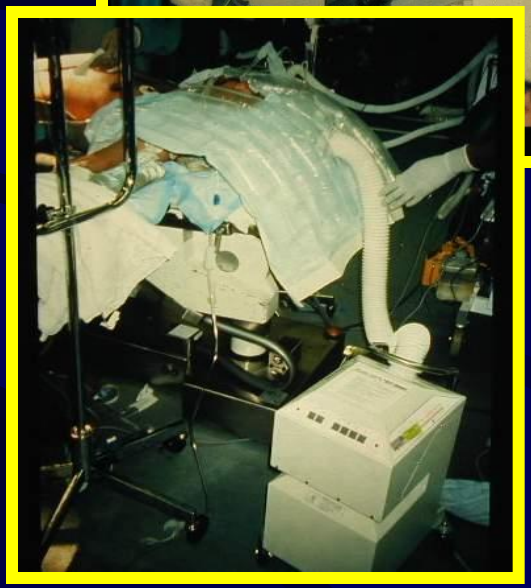
Concepts of Initial Assessment

Protect from Hypothermia



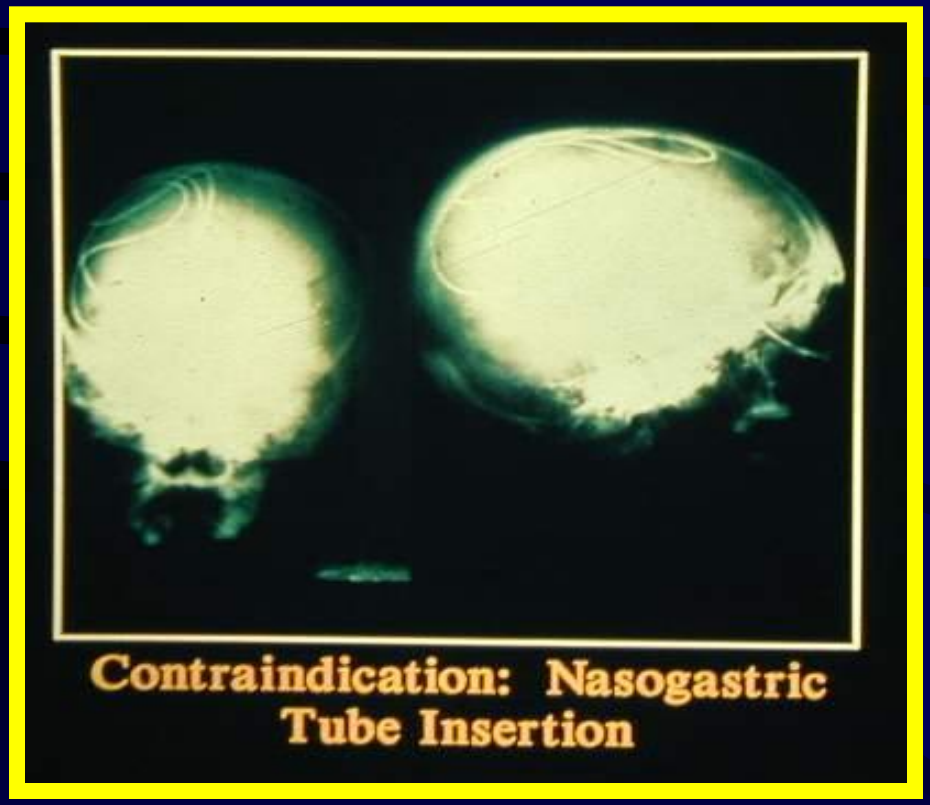






Initial Assessment

Catheter Contraindications



Contraindication: Nasogastric Tube Insertion

Initial Assessment

Monitor

- Vital Signs
- Urinary Output
- ABGs
- ECG, Temp, Pulse Oximetry
- Ent\d Tidal CO_2

Initial Assessment

Resuscitation

- **Manage Life-Threatening Injuries In Sequence and as Identified**
- **Consider Need For Transfer: MD to MD communication**

Initial Assessment

Before 2ry Survey

- Complete 1ry Survey
- Initiate Resuscitation
- Reassess ABGs

Initial Assessment

Secondary Survey

- Head-To-Toe Evaluation
- Complete Neurologic Evaluation
- X-Rays
- Special Procedures (Angio, MRI)
- "Tubes & Fingers in Every Orifice"
- RE-EVALUATION

Initial Assessment

"TRAUMA X-Rays"

Initial Assessment

Mobile X-Ray

Initial Assessment

A,B,C,D,E and U(ultra sound)

Initial Assessment

Secondary Survey

- **Mechanism Of Injury: BLUNT**
  - **Direction of Impact Determines Injury Patterns**
  - **History / Description of Events**
  - **Age Factors**

Initial Assessment

Secondary Survey

- Mechanism Of Injury: Penetrating
  - Anatomic Factors
  - Energy Transfer Factors
    - Velocity and Caliber of Bullet
    - Trajectory
    - Distance

Initial Assessment

Spine X-Ray Issues

Initial Assessment

Secondary Survey

Musculoskeletal

- **Extremities/Pelvis:**
  - **Contusions, Deformity, Pain, Crepitation, Abnormal Movement**
- **Vascular:**
  - **Assess All Peripheral Pulses**
- **Spine:**
  - **Physical Finding**
  - **Mechanism of Injuries**

Initial Assessment

Secondary Survey

Neurologic

- Determine GCS Score
- Re-Evaluate Pupils
- Sensory / Motor Evaluation
- Maintain Immobilization
- Prevent 2ry CNS Injury
- Early Neurosurgical Consultation

Initial Assessment

Re-Evaluation

- New Findings / Deterioration / Improvement
- High Index Of Susspicion
- Continuous Monitoring
- Pain Relief AFTER Surgical Consultation

Initial Assessment

Definitive Care

- Trauma Center Vs
- Closest Appropriate Hospital

Initial Assessment

Initial Assessment

Records & Legal Considerations

- Concise, Chronologic Documentation
- Consent for Treatment
- Forensic Evidence