

# External Trauma to the Neck

Dr. Carel van Wyk

Division of Otorhinolaryngology

University of Stellenbosch and

Tygerberg Hospital

# Introduction:

- ❖ Shift in Treatment Policy from MNE
- ❖ Effectiveness of initial management will determine final airway and voice.
- ❖ Airway is crucial
- ❖ Severe injuries to larynx rare
- ❖ See pt as whole

# Mechanism

- ❖ Blunt vs Penetrating

# Blunt trauma

- ❖ High speed MVA
- ❖ Strangulation
- ❖ Clothesline injury

# Penetrating Trauma

- ❖ Stab wounds
  - Depth of wound often underestimated
- ❖ Gunshot wounds
  - Velocity of bullet

# Consider associated injuries

- ❖ Oesophagus
- ❖ Vascular
- ❖ C-Spine
- ❖ Head Injury
- ❖ Peripheral nerve

# Primary Survey: ATLS Principles

- ❖ Airway + C-spine control
- ❖ Breathing + Ventilation
- ❖ Circulation + Haemorrhage control
- ❖ Disability + GCS / AVPU
- ❖ Exposure + Environmental control

# Airway Management

- ❖ Primary concern
- ❖ If unstable:
  - Intubation (ATLS)
    - NB: C-Spine and Laryngeal trauma
  - Tracheostomy : Preferred by ENT's



# History:

- ❖ AMPLE
- ❖ History of event
- ❖ Hoarseness / Voice change
- ❖ Dysphagia
- ❖ Odynophagia
- ❖ Diff Breathing
- ❖ Ant. Neck pain
- ❖ Dysphagia / Odynophagia

# Examination:

- ❖ Entire Head
- ❖ Pupils
- ❖ GCS + Cranial nerves
- ❖ CSF leaks
- ❖ Mouth
- ❖ C-spine
- ❖ Tenderness, Bruits, Deformity, Swelling, S Emphysema
- ❖ Tracheal deviation
- ❖ Suspect Pharynx/Larynx if:
  - Stridor
  - S Emph
  - Haemoptysis
  - Tenderness
  - Loss of prominence
  - Ecchimosiis
  - Oedema

# Imaging

- ❖ Flexible endoscopy
- ❖ C-Spine XR
- ❖ Ba Swallow
- ❖ Angiography
- ❖ CT

# Medical vs Surgical Mx

- Oedema
- Small Haematoma
- Small Lac
- Not inv Free margin VC
- Not inv Ant comm
- No exposed Cartilage
- Single non displaced thyroid cart #
- Lac Free margin VC
- Lac Ant Comm
- Mult. Displaced #'s
- Avulsed or dislocated arytenoids
- Vocal Cord immobile

# Schaefer's Classification

## ❖ Group I

- Minor endolaryngeal lac or haematomas
- No #
- Min airway compromise

## ❖ Flex Scope / ??CT

# Schaefer's Classification

## ❖ Group II

- Mod oedema
- Lac
- Mucosal disruption
- No exposed Cartilage
- Non displaced #'s
- Varying Airway comp

## ❖ Trache / ??CT

# Schaefer's Classification

## ❖ Group III

- Massive oedema
- Mucosal disruption
- Displaced #'s
- Cord Immobility
- Varying Airway comp

## ❖ Exploration

# Schaefer's Classification

## ❖ Group IV

- Two or more # lines
- Skeletal instability
- Significant comm trauma

## ❖ Exploration/ Stent



# Surgical Mx

- Horizontal skin inc at cricoth mem
- Subplatysmal flaps
- Strap muscles
- Thyrotomy
- Laryngofissure via midline
- Inspect + repair
- Mucosal flaps prn
- Arytenoids
- Suspend VC to outer perichond
- Close thyrotomy

# Special considerations /Controversies

- ❖ Time of surgery
- ❖ Airway management
- ❖ ORIF of #'s
- ❖ Repair of Rec. Laryngeal
- ❖ Paediatric injuries
- ❖ Laryngotracheal separation
- ❖ Complications

# Patient example 1

# Patient example 2

# Patient example 3

# Patient example 4

# Patient example 5

# Patient example 6





