

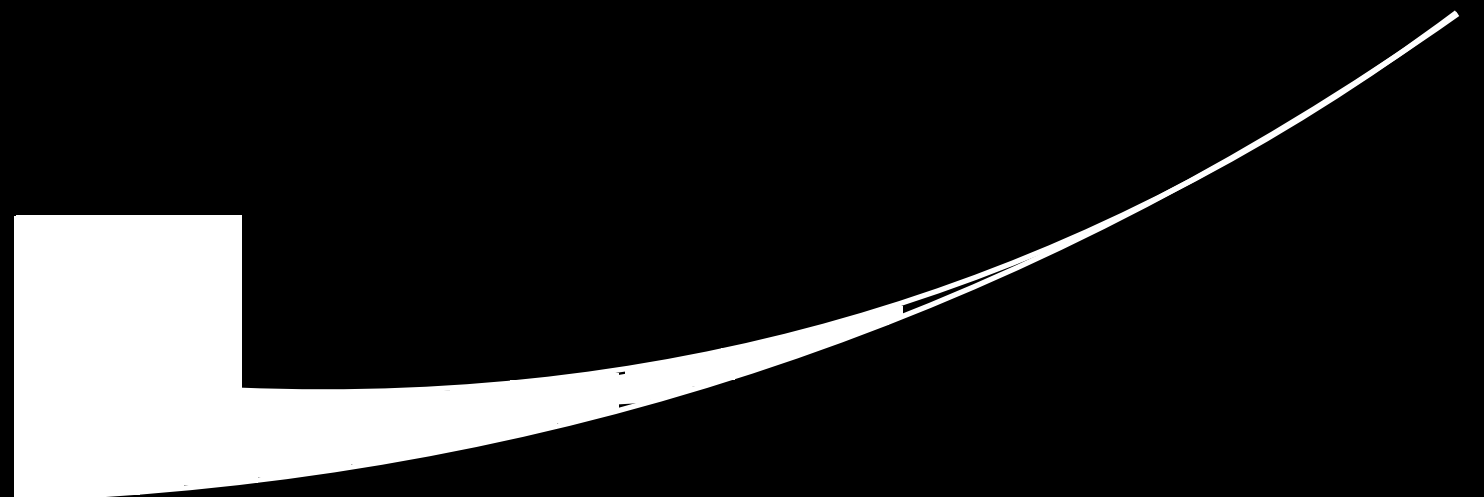
期刊導讀

阻塞性氣道處理

ATOTW 336-Management of the Obstructed Airway. (16th Aug 2016)

Li-Wei Lin, MD, MS.

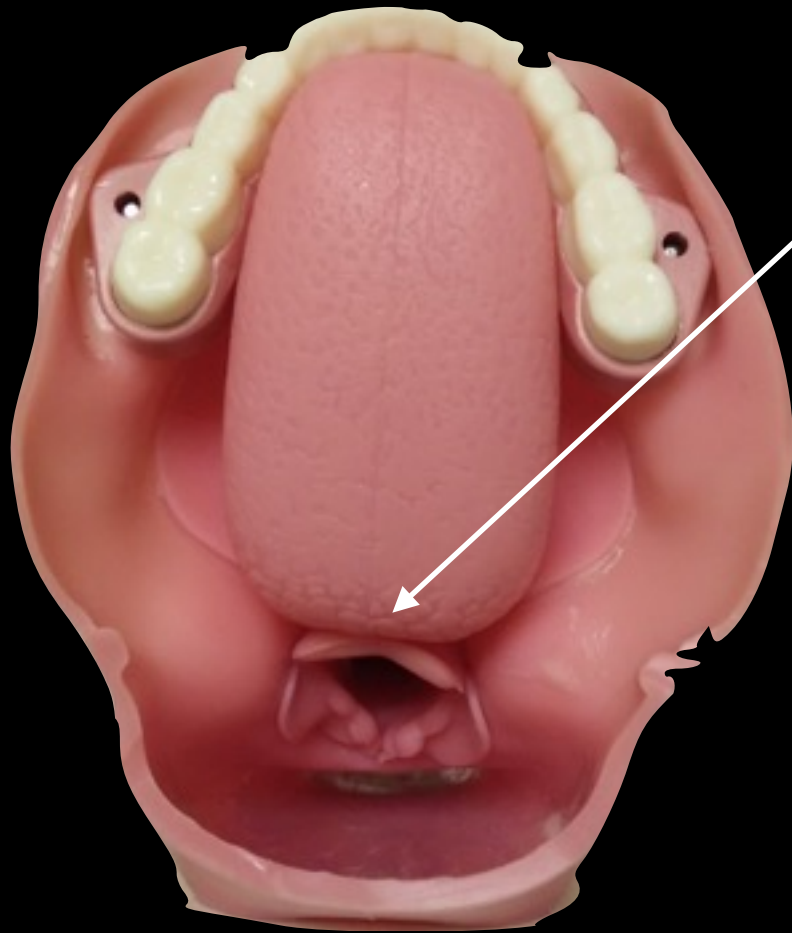
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氣道阻塞的原因



聲門上(Supraglottic)

口咽病灶

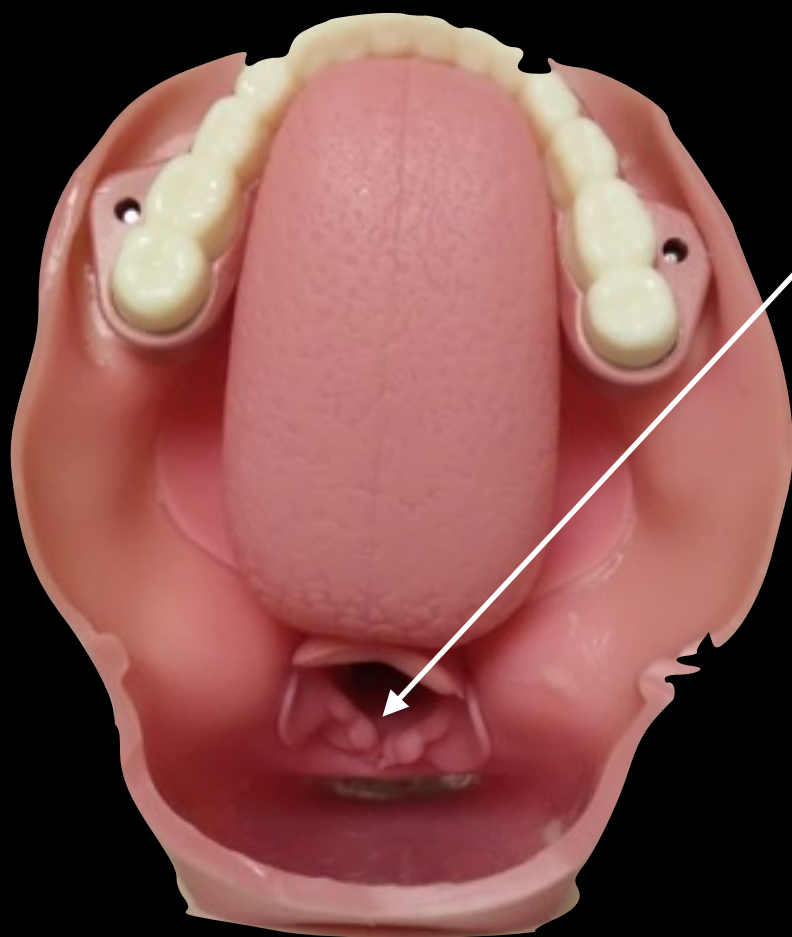
舌根腫瘤

會厭炎

咽後膿瘍

侵犯性食道癌

氣道阻塞的原因



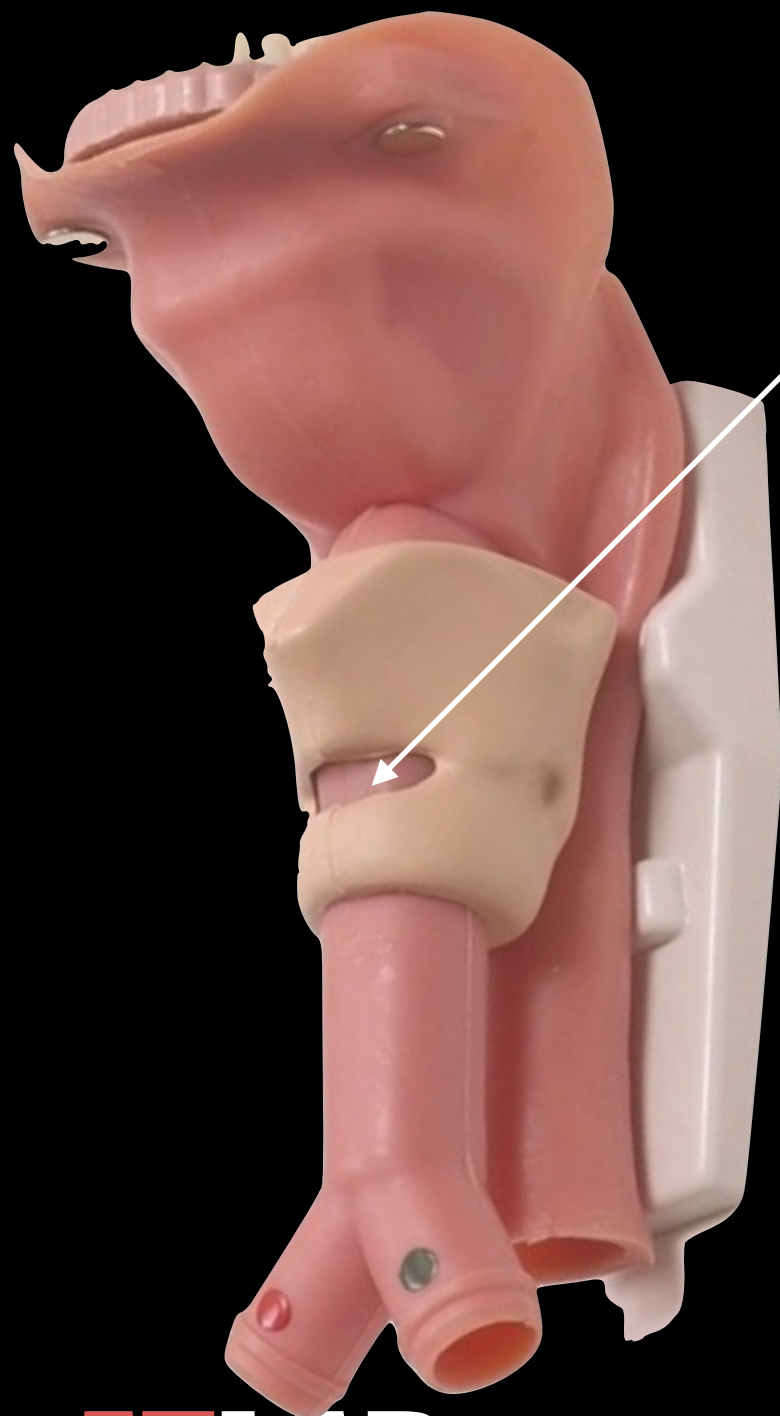
聲門(Glottic)

聲帶麻痺

聲帶腫瘤

聲帶息肉

氣道阻塞的原因



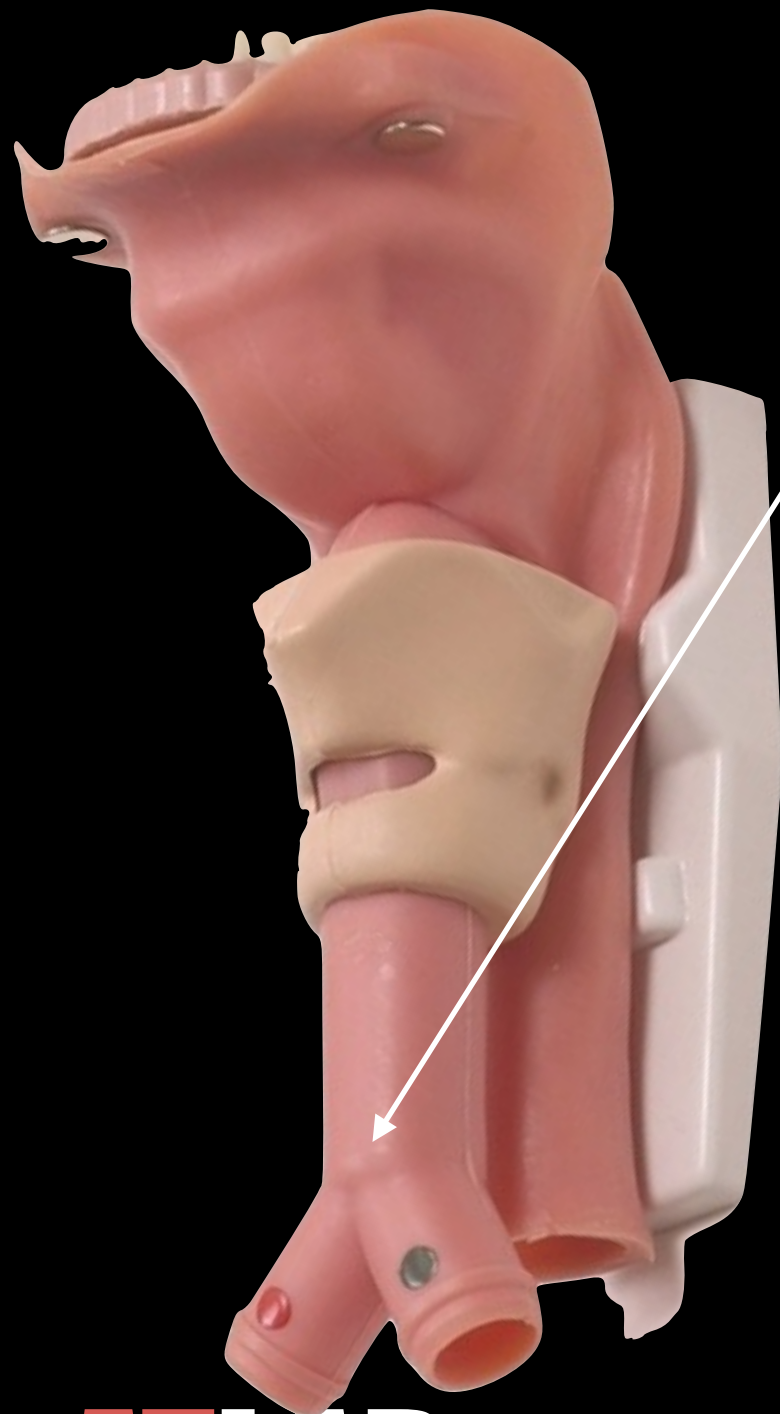
聲門下(Subglottic)

氣管狹窄

喉頭軟化症

聲帶下腫瘤

氣道阻塞的原因



遠端氣管(Distal tracheal)

淋巴瘤

甲狀腺腫塊

縱膈腔腫塊

氣道瀕臨阻塞的徵象

呼吸困難

喘鳴

鼾聲

聲音改變/沙啞

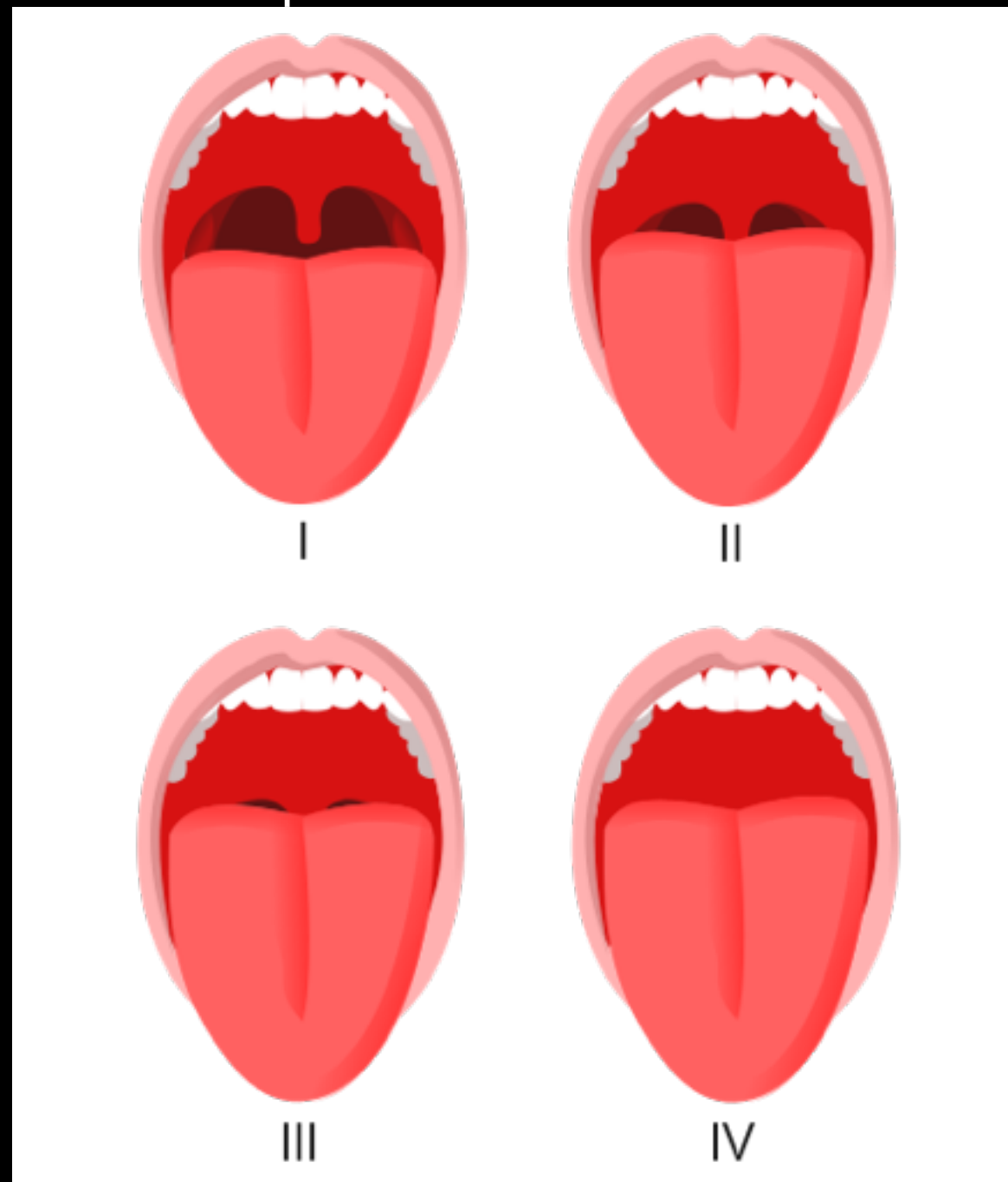
吞嚥困難

流涎/無法吞下分泌物

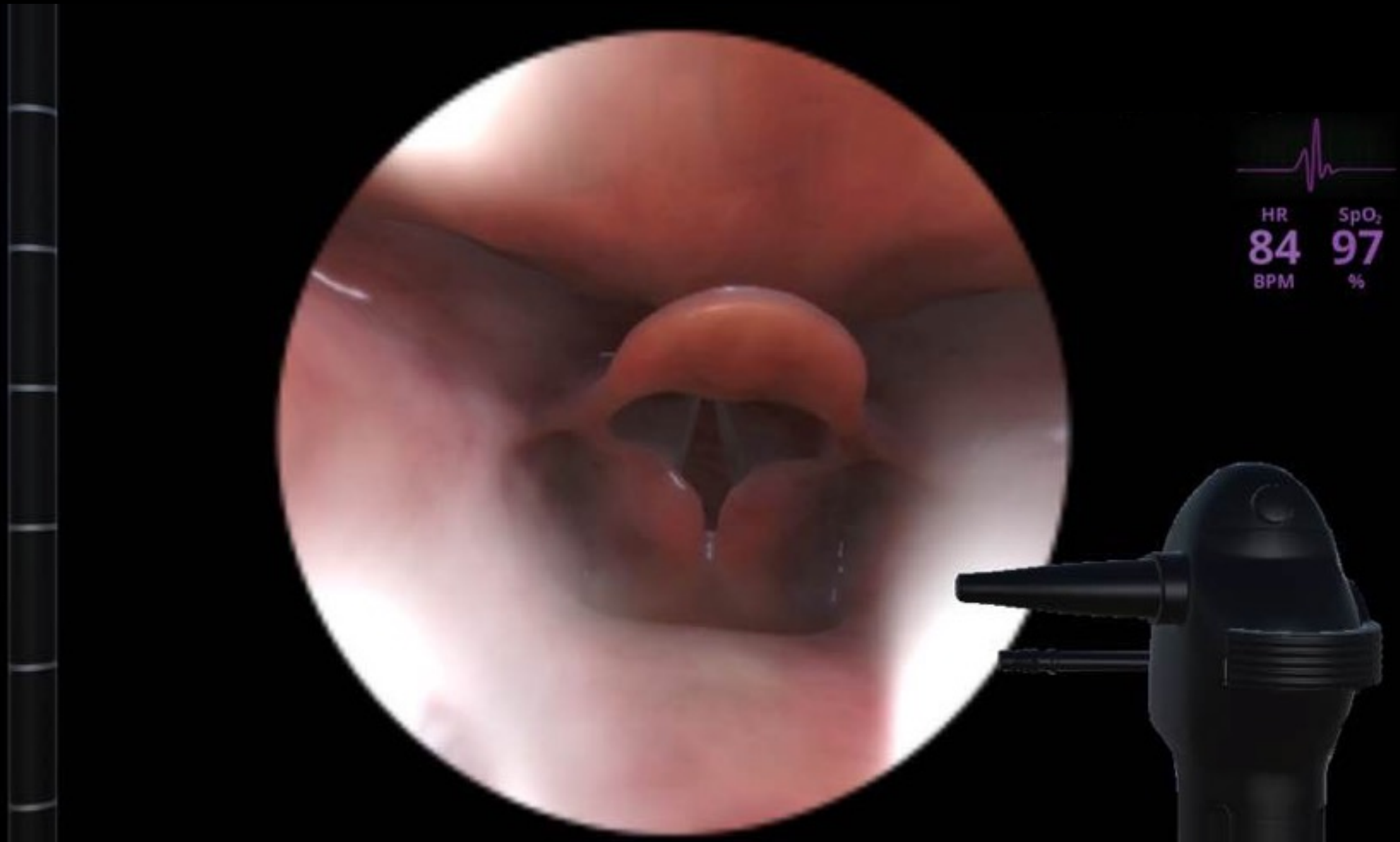
無法躺平/坐立前傾維持氣道

理學檢查

Mallapati Classification



經鼻內視鏡檢查



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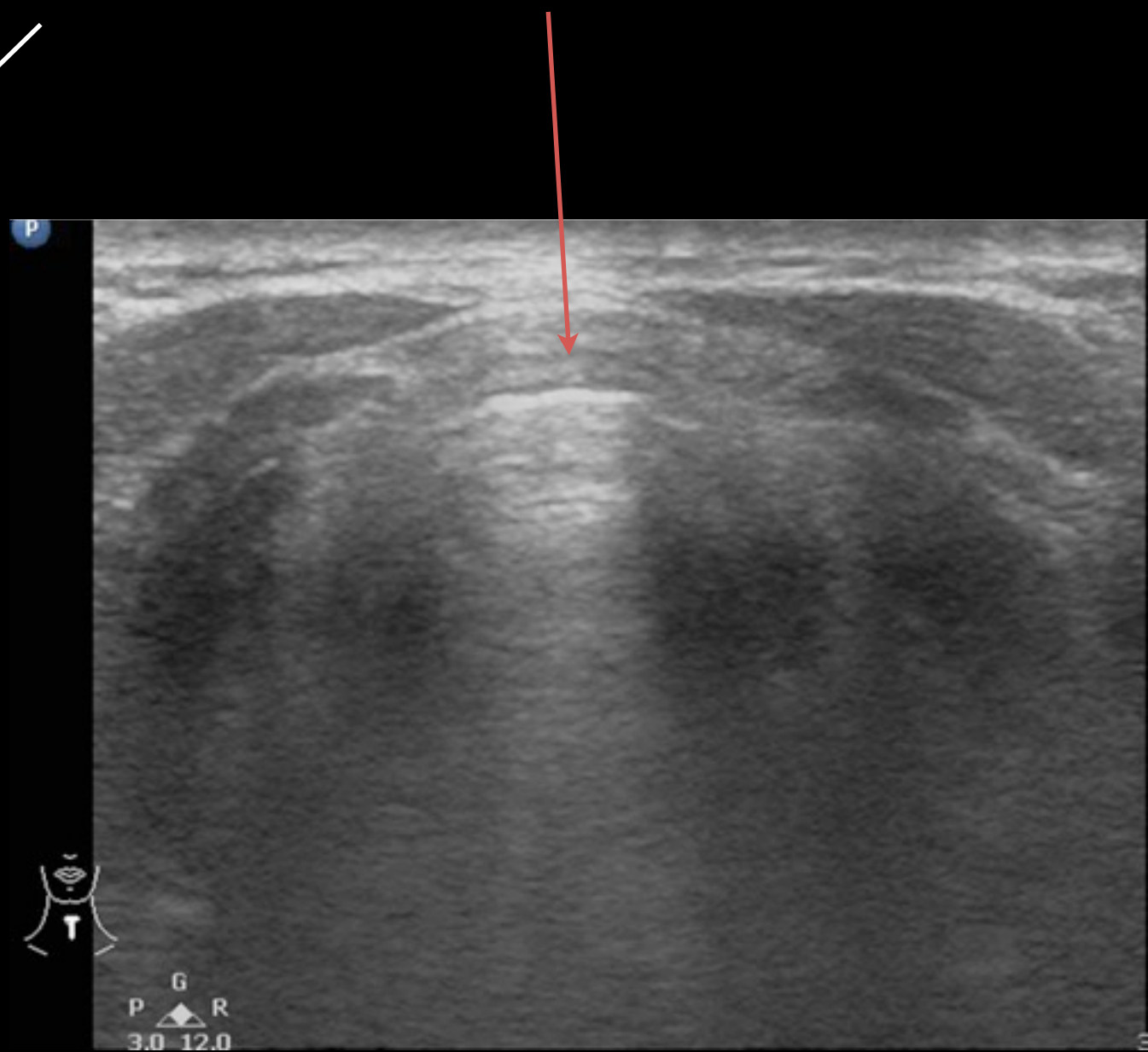
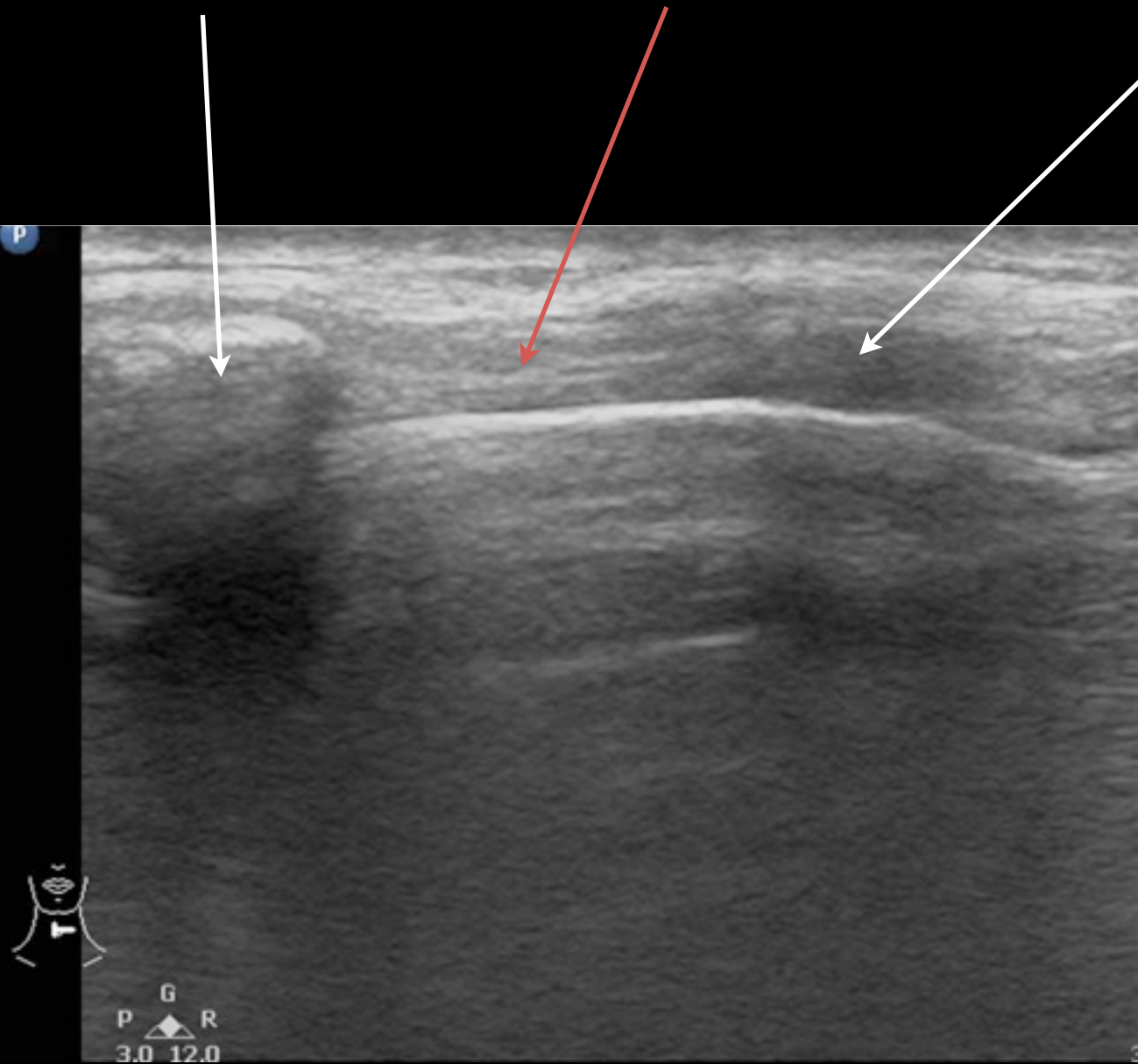
App: Airway EX

超音波

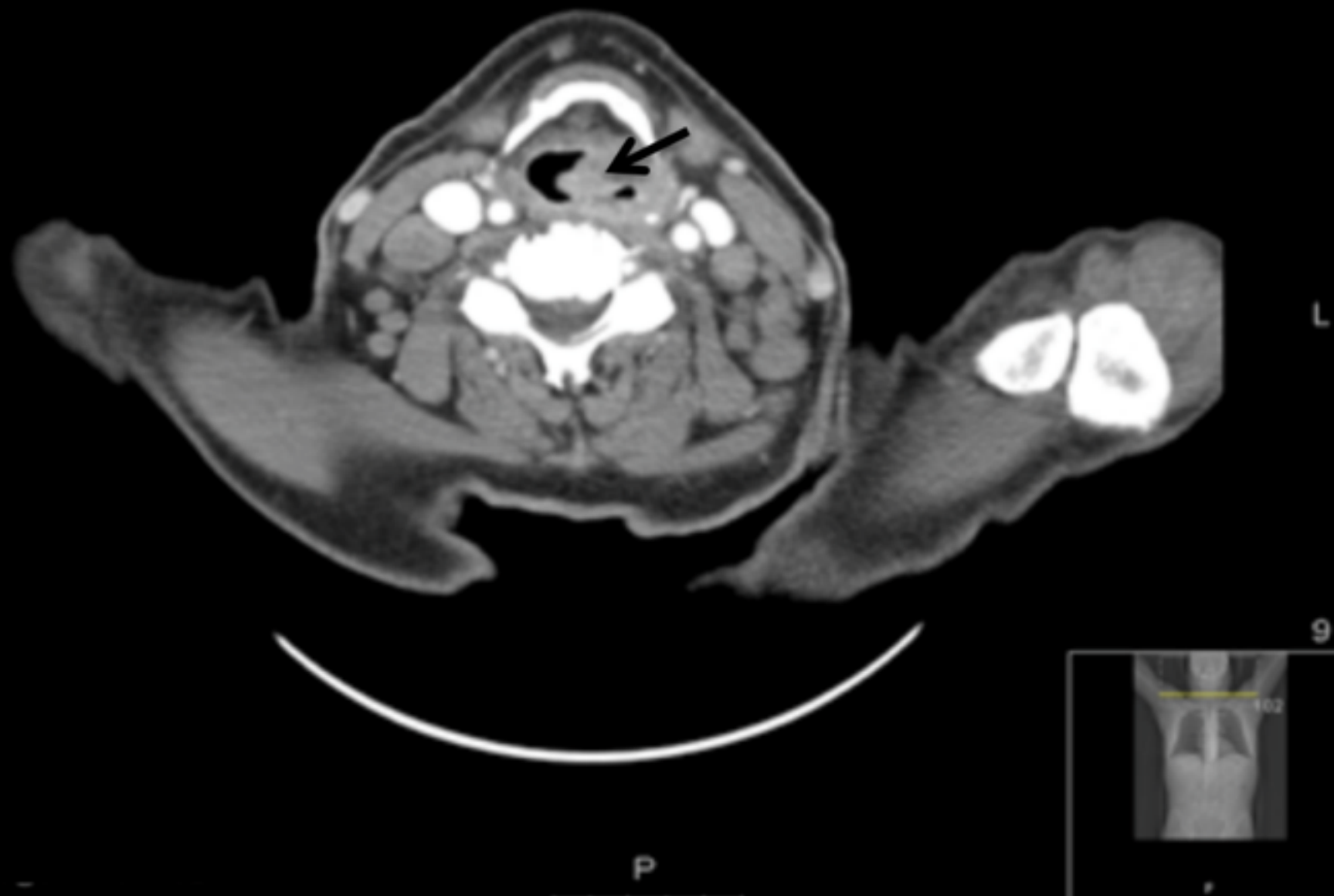
甲狀軟骨 環甲狀軟骨膜

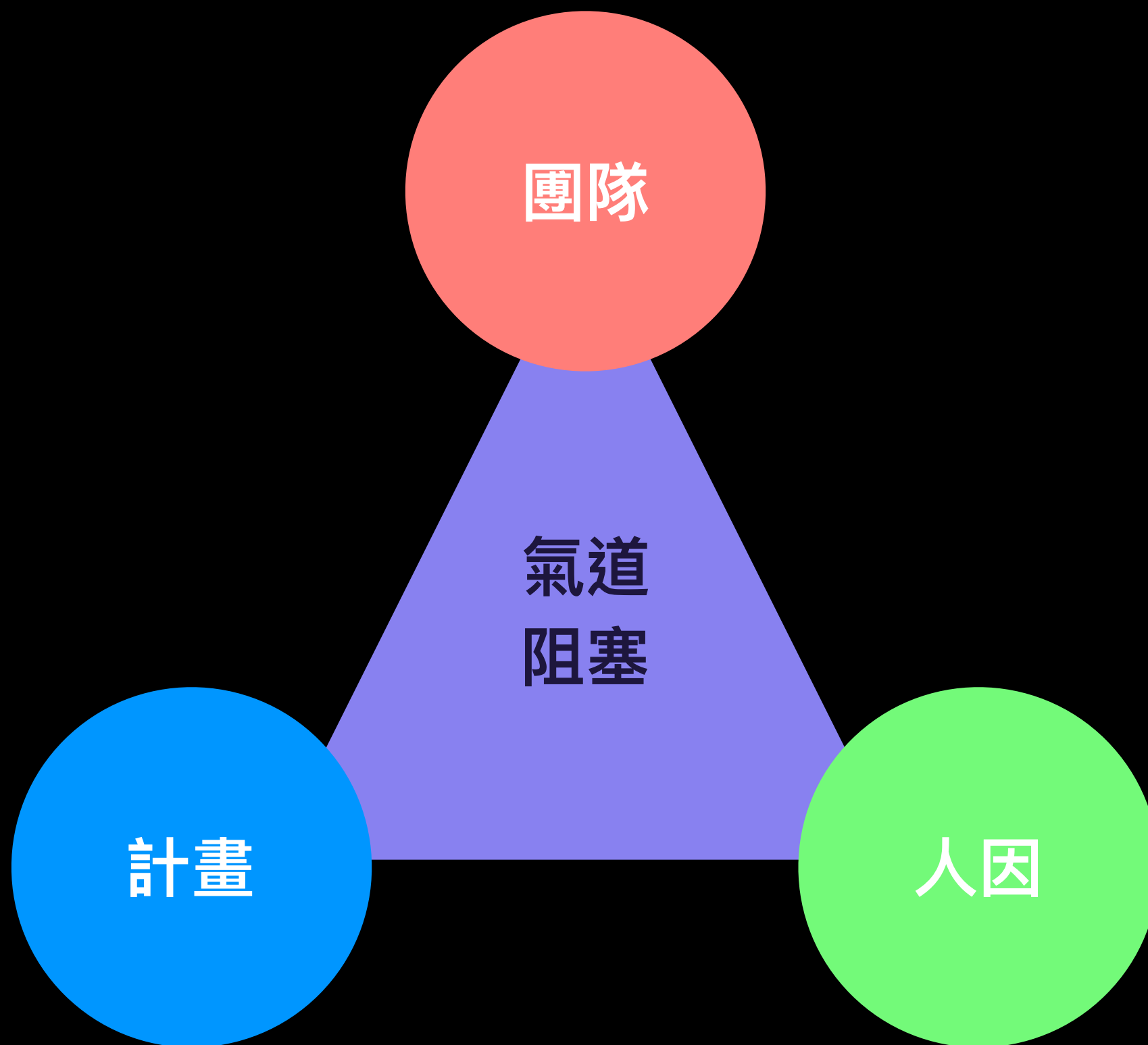
環狀軟骨

環甲狀軟骨膜



MRI/CT検査





Interim medical treatment and safe transfer with surgeon

Consider humidified oxygen (inc. THRIVE) / steroids / heliox / nebulised adrenaline

AIRWAY STRATEGY

What is the nature, level and extent of the obstruction?

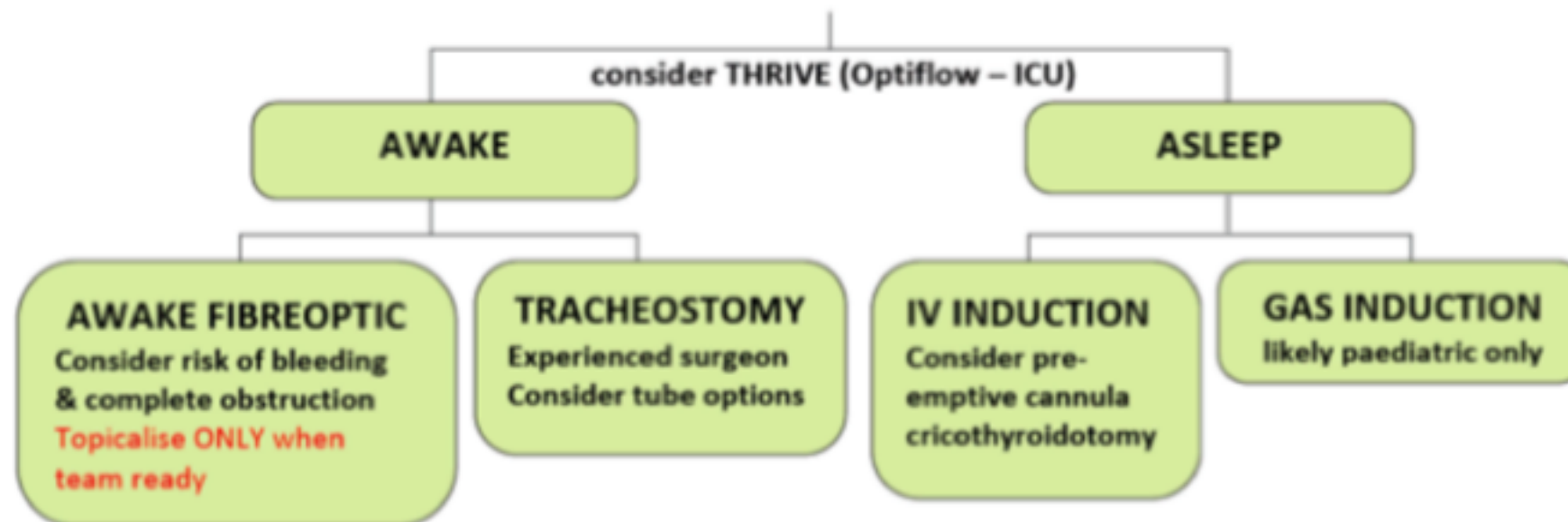
Within what time frame does the airway need to be secured?

Is the patient able to co-operate / lie flat?

Anticipate that facemask ventilation may be impossible

IS AN AWAKE TRACHEOSTOMY POSSIBLE & REQUIRED?

This should be a joint decision making process between anaesthetist and surgeon



CONTINGENCY PLANNING

Plan B/C/D with equipment prepared
Decide operator(s) and number of attempts
Triggers to switch plan e.g. SaO₂

Surgeon scrubbed & tracheostomy set open
Difficult airway trolley
Front of neck access

Figure 7. A cognitive aid to planning an airway strategy in an obstructed airway ¹⁷

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consider THRIVE (Optiflow - ICU)

AWAKE

ASLEEP

AWAKE FIBROPTIC
Consider risk of bleeding
& complete obstruction
Topicalise ONLY when
team ready

TRACHEOSTOMY
Experienced surgeon
Consider tube options

IV INDUCTION
Consider pre-
emptive cannula
cricothyroidotomy

GAS INDUCTION
likely paediatric only

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Decide operator(s) and number of attempts
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Difficult airway trolley
Front of neck access

暫時的內科治療

外科醫隨同的安全轉送

- 潮溼氧氣(transnasal humidified rapid insufflation ventilator exchange, THRIVE，經鼻溼化快速充氣交換通氣)
- 類固醇
- 氦氧混合氣(Heliox，70%氦氣+21%氧氣)
- 腎上腺素噴霧

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氣道策略

- 氣道阻塞的本質、位置及程度
- 讓氣道安全的時間緊迫性
- 病患可否合作及躺平?
- 預期BVM會失敗
- 是否需要氣管造口術

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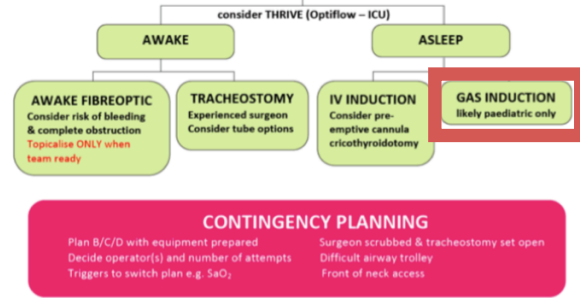
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氣體誘導麻醉

- 僅在小兒阻塞氣道使用

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AIRWAY STRATEGY

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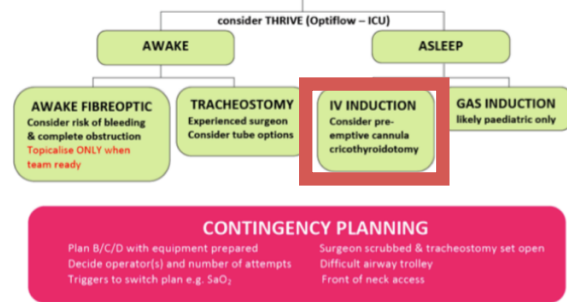
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靜脈誘導麻醉

- 考量預先給予環甲狀軟骨膜套管插入



Melker Cricothyroidotomy Kit
Photo from www.boundtree.com

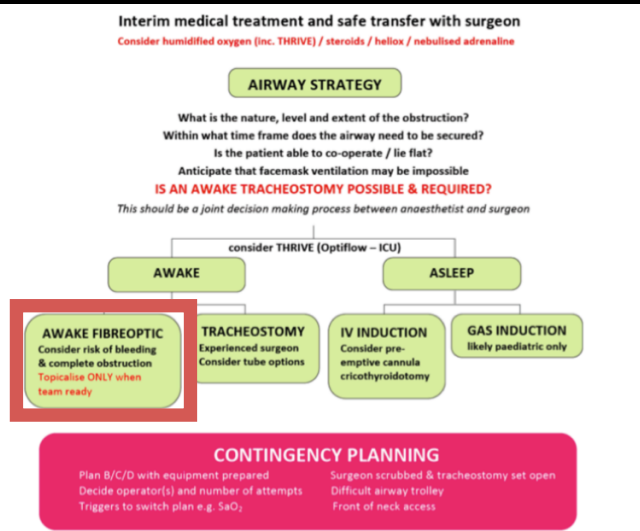


Figure 7. A cognitive aid to planning an airway strategy in an obstructed airway ¹⁷

清醒內視鏡插管

- 考量出血及完全阻塞的風險
- 僅在團隊準備完全才能進行局部麻醉

AIRWAY STRATEGY

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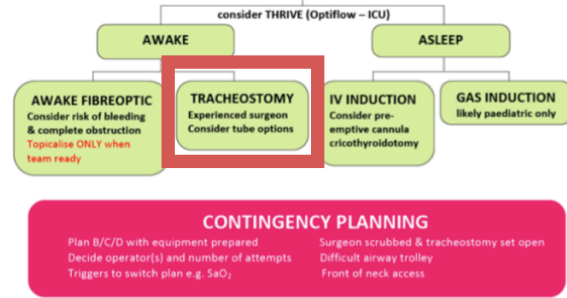


Figure 7. A cognitive aid to planning an airway strategy in an obstructed airway ¹⁷

清醒氣管造口術

- 有經驗的外科醫師
- 考量管路的選擇

AIRWAY STRATEGY

What is the nature, level and extent of the obstruction?

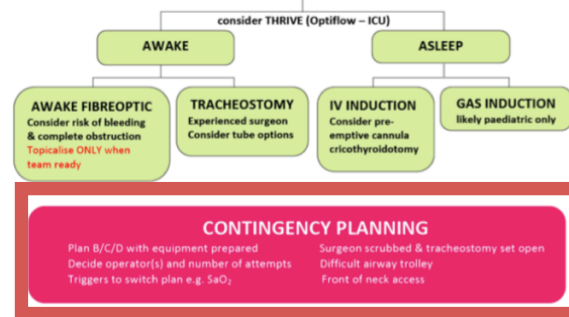
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應變計畫

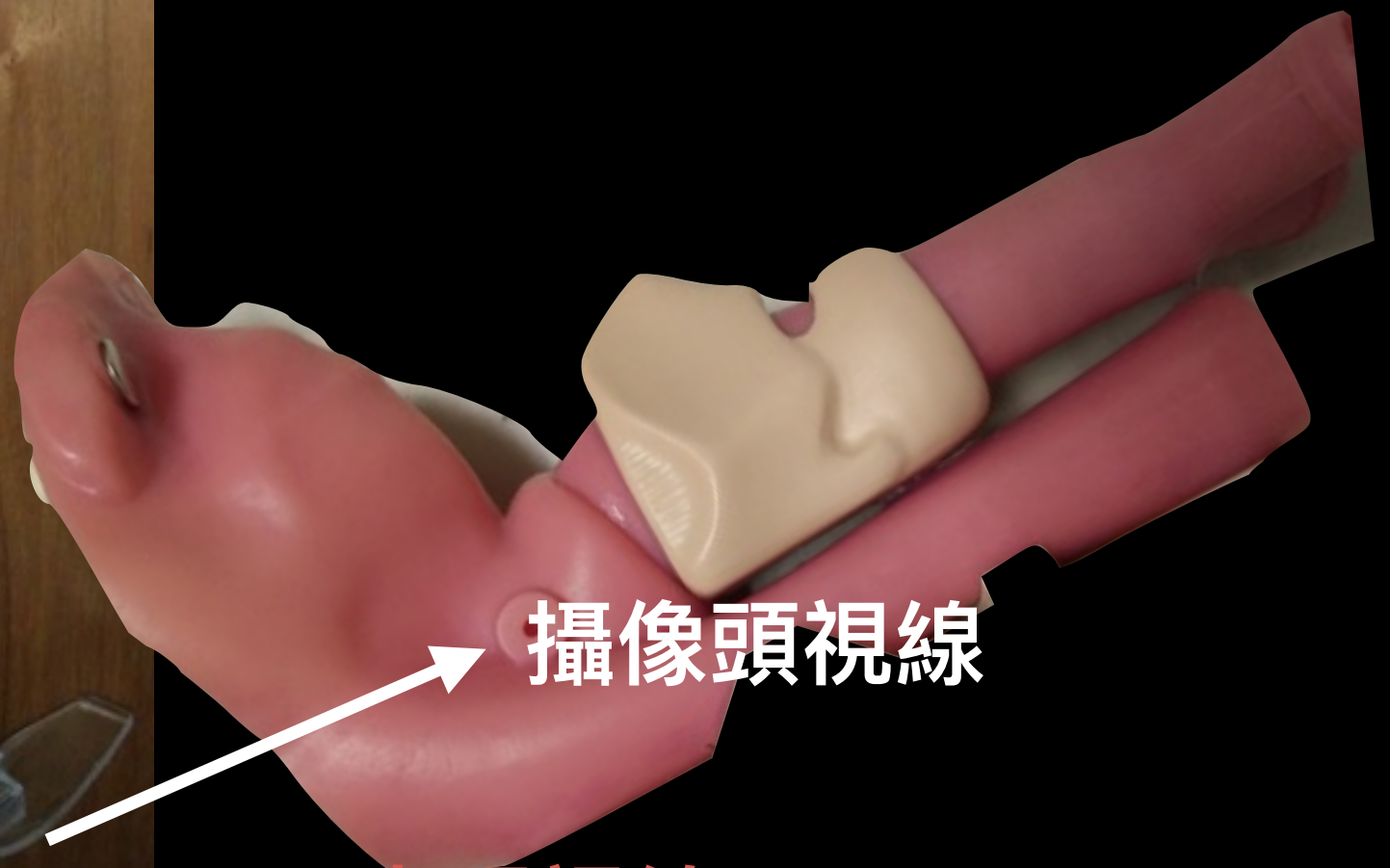
- 計劃B/C/D及準備相對應的設備
- 決定操作者及嘗試插管的次數
- 更改計劃的觸發點
- 外科醫師刷手及打開氣切組
- 困難氣道插管車
- 外科氣道

直接喉頭鏡



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間接影像式喉頭鏡



CrazyATLAB

軟式光纖喉頭鏡



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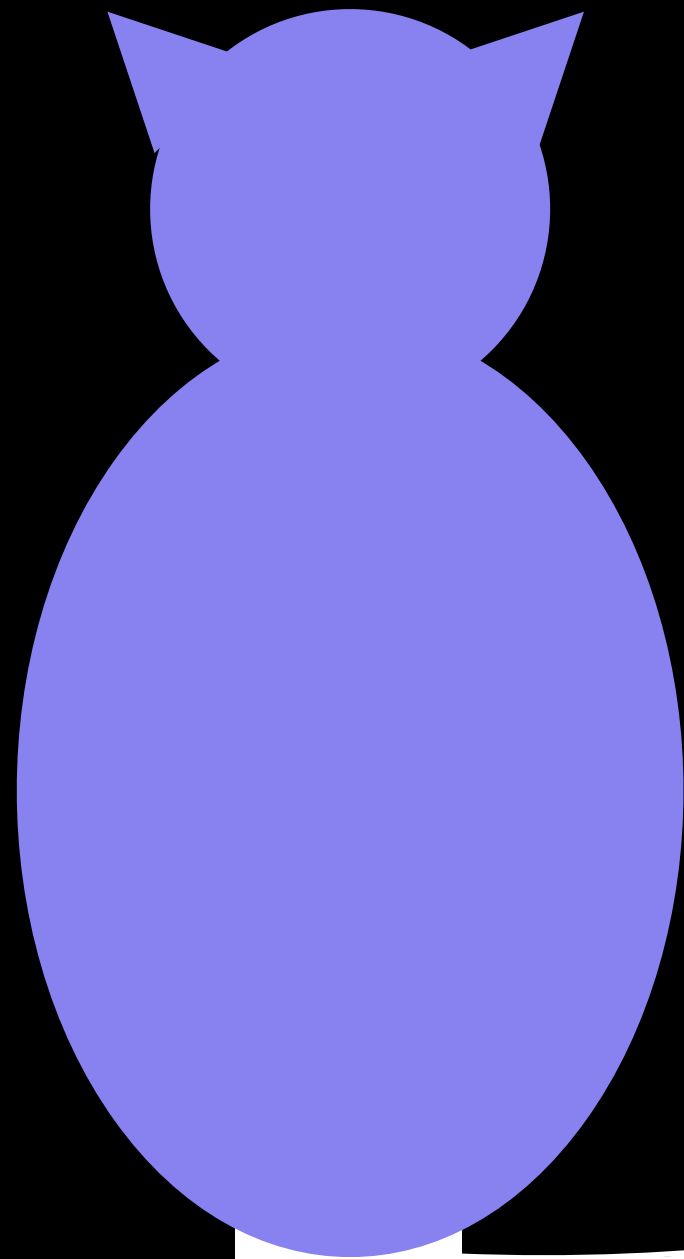
硬式光纖喉頭鏡



CrazyATLAB's

讀後心得





Critical Airway Training

music: bensound.com