SAQ – Asthma/Intubation/Ventilation.

A 35 year old female presents to your Emergency Department with an acute Asthmatic attack. She is on continuous salbutamol nebs, highly distressed and only speaking single words.

1. Name at least 4 features on history increase the risk of severe life threatening Asthma? (2pts)
2. List at least 6 therapeutic drug classes that may be used in treatment of a severe attack. (2pts)

Despite intensive therapy, and a period of non-invasive ventilation, the patient continues to deteriorate, appears exhausted and begins to tire rapidly. You decide intubation is required.

1. Outline what your initial ventilator settings would be. (3pts)
2. What physiological targets are you aiming for? (3pts)

*Alternative question parts.*

* Describe the advantages and disadvantages of a class of medication. (ie. Magnesisum, or Salbutamol)
* - What are the advantages and disdantages of Non Invasive Ventilation.
* Describe how you would intubate this patient.
* - The patient become hypotensive 5 minutes after intubation. What immediate actions do you take?

A 35 year old female presents to your Emergency Department with an acute Asthmatic attack She is on continuous salbutamol nebs, is highly distressed and only speaking single words.

1. Name at least 4 features on history increase the risk of severe life threatening Asthma? (2pts)
	1. previous life-threatening attack,
	2. previous intensive care admission with ventilation,
	3. requiring three or more classes of asthma medication,
	4. heavy use of β-agonists,
	5. repeated emergency department attendances in the last year and having required a course of oral corticosteroids within the previous 6 months.
	6. Behavioural and psychosocial factors have also been implicated in life-threatening asthma including non-compliance with treatment or follow up, obesity and psychiatric illness.

*Cameron 4th ed Ch 6.2*

1. List at least 6 therapeutic drug classes that may be used in treatment of a severe attack. (2pts)
	1. Oxygen
	2. B2 agonist inh/neb/IV
	3. Corticosteroids
	4. Ipratropium
	5. Adrenaline
	6. Magnesium
	7. Aminophylline
	8. Heliox
	9. Ketamine (preferred induction agent.)
2. Outline what your initial ventilator settings would be. (4 pts)
* Needs a safe approach.
* Need to mention permissive hypercapnia to be tolerated if necessary.
* Lung protective Strategy
* Pressure or Volume control with attention to ensuring adequate minute ventilation.
* Tidal volume - maximum of 8ml/kg (6-8)
* RR – may need to be very low – start at 10 bpm, but be prepared to titrate down.
* I:E ratio – at least 1:3, may need to be 1:5. May need to adjust inspiratory time to achieve.
* Fi02 100%
* PEEP – controversial 0 or 5 mmHg (may have autopeep)
* Limits – Peak insp 35-40, plateau -35

4. What physiological targets are you aiming for? (2 pts)

* Pt heavily sedated
* Sats > 92%
* PaCO2 – tolerate PaCo2 up to 80 or higher if required.
* pH > 7.15
* normothermia