Yes MAAM, No MAAM:
Clinical Decision Making for Rapid Sequence Induction Intubation

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NORTH
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MAAM Procedure Defined
(Medically Assisted Airway Mgmt)

- **Consists of:**

- The **administration** of a **neuromuscular blocking** agent and an **induction agent** to facilitate airway management in a **controlled manner.**

The Purpose of MAAM

- To **facilitate** endotracheal intubation in specific situations
- To improve **ventilation and oxygenation**
- **Does NOT replace critical attention to the basic ABCs!**

WHEN IS MAAM INDICATED?

- Patients with an **intact gag reflex** who are unable to protect their own airway **and** are not ventilating themselves effectively **and** can not be ventilated effectively through BLS skills.
- Patients who are ineffectively ventilating and are combative (typically following an acute traumatic brain injury.)

BLS SKILLS???

Combativeness / gag reflex does not necessarily equal inability to ventilate!

- Patient positioning (open the airway)
- High flow oxygen
- Bag valve mask ventilations (PEEP valve)
- OPA/NPA
- NIPPV
- **Consider reversible causes of hypoxia**

USE YOUR JUDGEMENT…

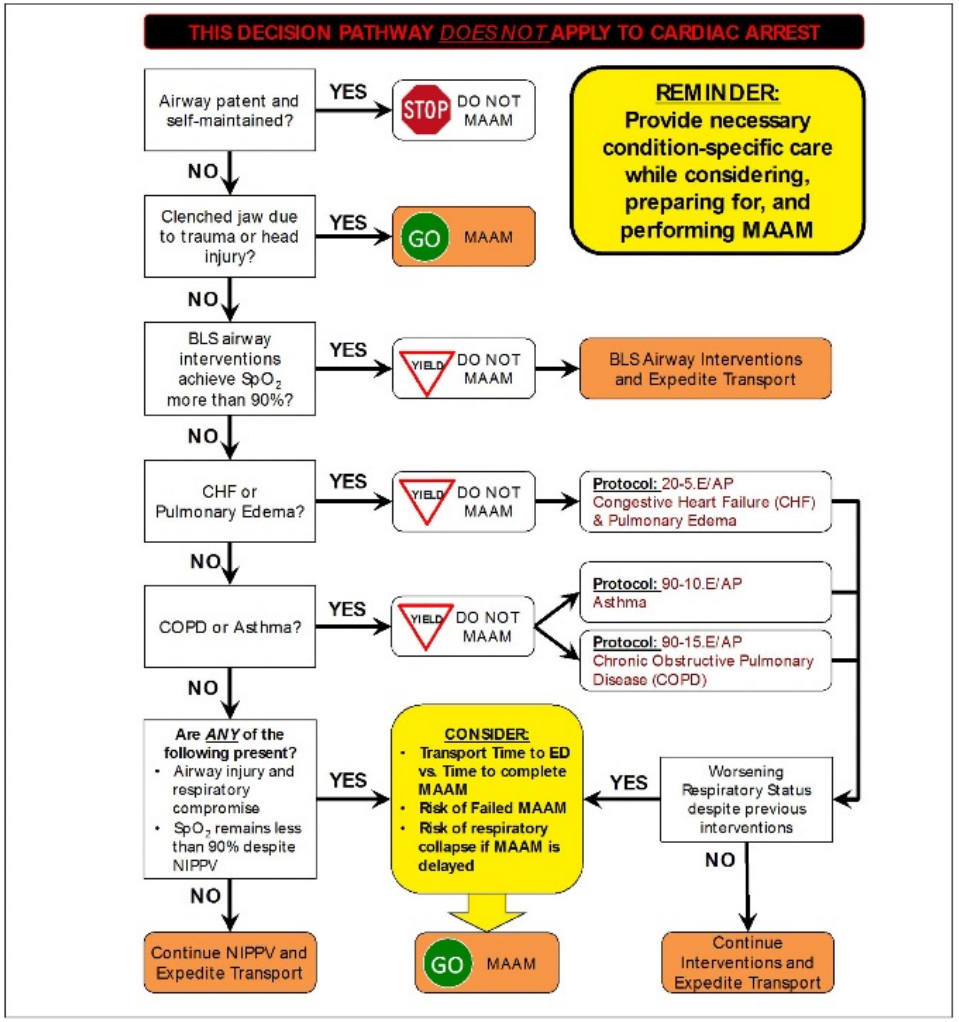
- Three questions that need to be answered before MAAM:
  - Is there a failure of airway maintenance or protection?
  - Is there a failure of oxygenation or ventilation?
  - Is there an anticipated need for MAAM **during the time you are managing the patient?**

Medically Assisted Airway Management (MAAM) Clinical Decision Pathway

Clinical decision pathway that is to be used in performing complex airway management, and determining whether a patient is a candidate for MAAM.

NORTH MEMORIAL HEALTH AMBULANCE & AIR CARE
Clinical Care Manual

QUICK REFERENCE GUIDE		
Decision Pathway: Medically Assisted Airway Management (MAAM)	**Authoritative Protocol:**	10-5.E/AP
	Quick Reference Guide:	10-5.E/QRG
	Resource & Education Document:	
ADULT and PEDIATRIC PROTOCOL		



USE YOUR JUDGEMENT…

“The first thing they’re going to do in the STAB room is intubate this patient.”

…is not reason alone to perform MAAM on your patient.

USE YOUR JUDGEMENT…

- Unless **severe** airway compromise…
- **Consider** your proximity to **ANY** facility with additional advanced management capabilities…
- **Consider** "scoop and run" while performing BLS airway interventions while enroute to hospital.
  - "scoop and run" does not mean compromising ABC's

PREPARATION

1. Restraints, if needed
2. IV/IO access
3. EKG monitor
4. SpO2 monitor
5. ETCO2 monitor
6. NIBP
7. Suction
8. BVM
9. Backup airway
10. PPE

PRE-OXYGENATION

NASAL OXYGEN DURING EFFORTS TO SECURE THE AIRWAY

- Apply a nasal cannula at 15 lpm prior to medication administration and maintain the flow at 15 lpm during the entire procedure until the invasive airway is placed and confirmed.

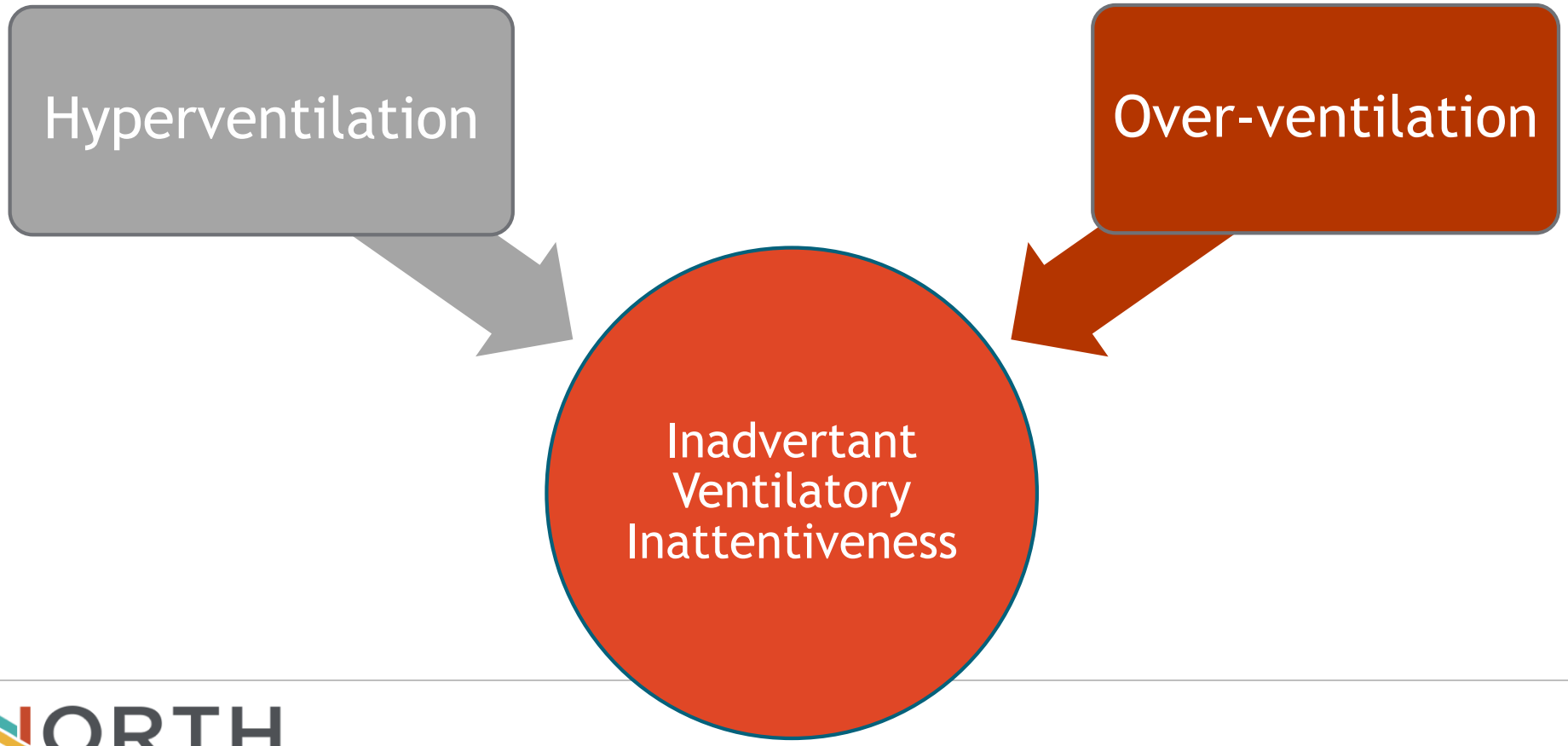
NO DESAT Principle

- **Preoxygenation: Goal is to achieve an SpO2 greater than 98% and displace nitrogen with oxygen prior to attempting invasive airway placement.**
- For patients who are breathing adequately, use a high flow partial rebreather mask (15 lpm) or NIPPV (5-15 cm H20 pressure) for 2-5 minutes prior to sedation.
- For apneic patients, use a BVM (15 lpm) for 2-5 minutes prior to sedation. A PEEP valve (5-15 cm H20 pressure) may also be used if available.
- Consider Ketamine (0.5-2.0 mg/kg IV/IO) for dissociation in patients who may not tolerate pre-oxygenation attempts.

PROCEDURE

- Pre-oxygenate
- NO DESAT (nasal oxygen during efforts securing a tube)
- Pre-medicate (if indicated)
- Sedation
- Paralysis
- Insert invasive airway
- Post-intubation care

Manual Ventilation: Dyad of Harm



Manual Ventilation: Dyad of Harm

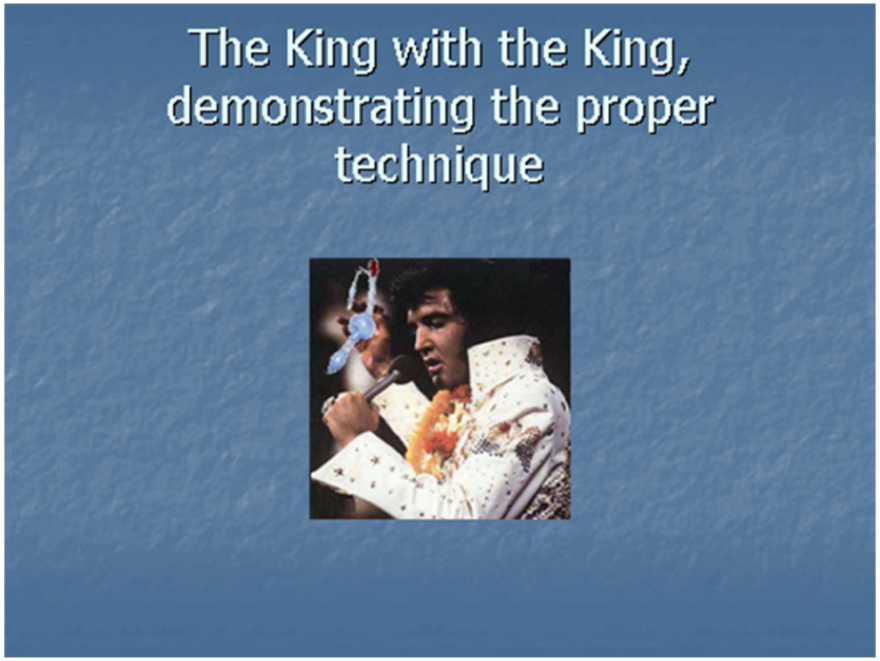
- Hyperventilation
  - Bagging faster than one breath every six seconds (>10 bpm)
- Over-ventilation
  - Squeezing the bag too hard/too aggressively/too deeply

High airway pressure	⇨	↑ JVP ↑ ICP
Decreased venous return	⇨	↓ Cardiac output ↓ Cerebral perfusion
Alveolar damage	⇨	ARDS

Yes MAAM, No MAAM

- Evaluate your patient's airway.
- Exercise situational awareness.
- Remember BLS skills!
- Have a plan (MAAM Decision Pathway)!
- Same preparation/protocol for every patient.
- Continue to oxygenate your patient.
- Beware the dangers of hyperventilation and overventilation.

QUESTIONS?


The King with the King, demonstrating the proper technique


MOST PLACES WOULD CALL THIS A CRIPPLING SNOWSTORM
IN MINNESOTA WE CALL IT THURSDAY