

Quality Improvement Strategies for High Performance Airway Care

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Disclosures

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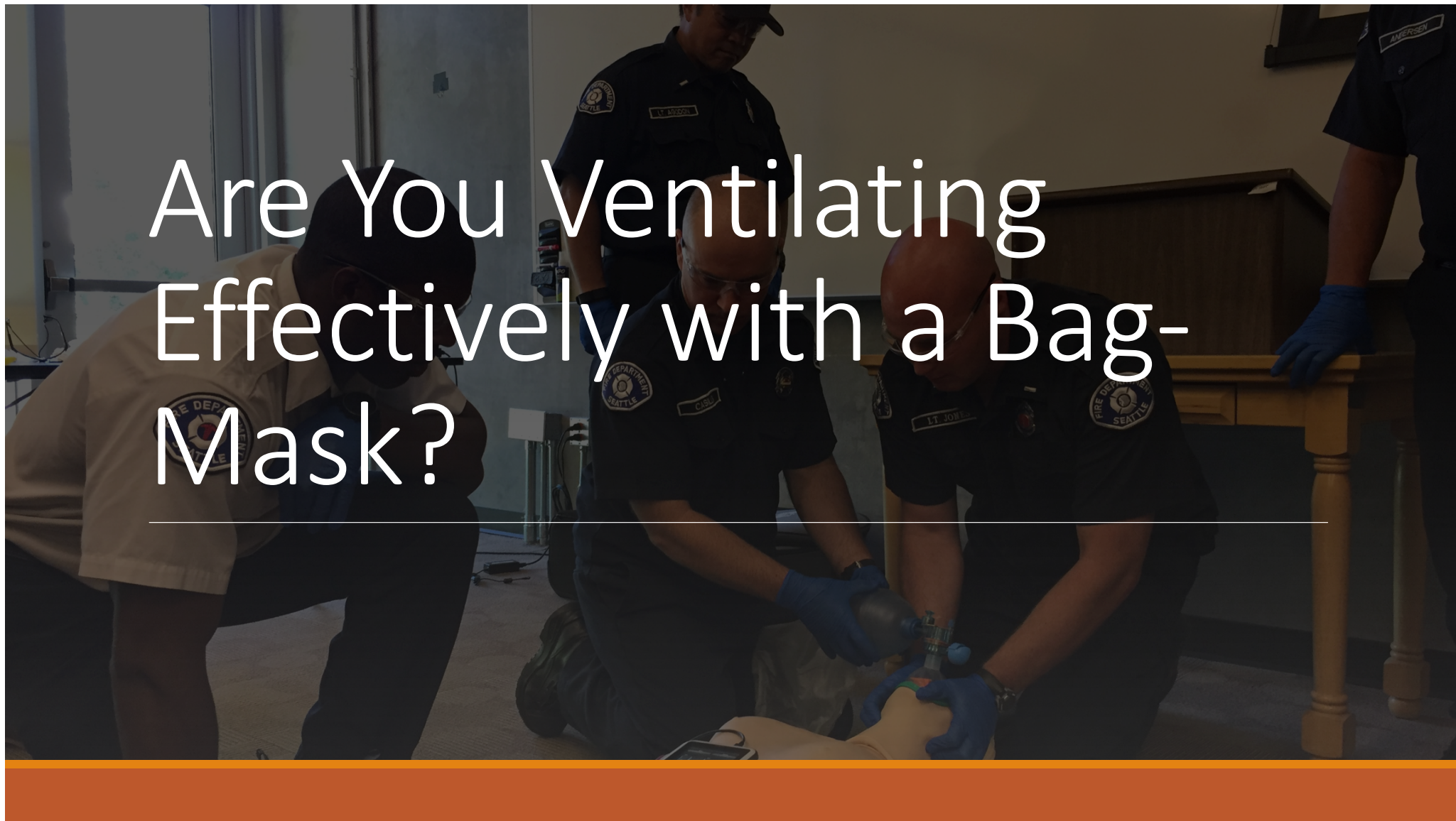
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- Fellowship sponsored, in part, by Physio-Control



Are You Ventilating Effectively with a Bag-Mask?



Do You Know What is Really Happening During EMS Airway Management?






Macintosh Laryngoscope (prototype)

WLM ID: aik
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Are you an Eagle?



EVALUATION OF PHYSIOLOGIC ALTERATIONS DURING PREHOSPITAL PARAMEDIC-PERFORMED RAPID SEQUENCE INTUBATION

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EMS CARE SUMMARY

Seattle Fire Department

Incident

Run

Date

PATIENT

Male, 58 Years

DOB

Weight 200.0lbs - 90.7kg

ADDRESS

PAST HISTORY

Unable to Obtain - Other Reason

ALLERGIES

Unable to Obtain - Other Reason

MEDS

Unable to Obtain - Other Reason

COMPLAINT

skull fracture

unc/unr

NARRATIVE

58 yo male found down on front porch by neighbor. BLS arrived to find pt unc/unr w gcs 3.

vitals,bb/cc, trauma doc, iv lr, etomidate 20 mg, suxx 150 mg, failed intubation attempt, recontact trauma doc, etomidate 20 mg, roc 100 mg, intubation 7.5 tube with bougie, mist in tube, positive lung sounds, negative epigastric sounds, etco2 53, o2 93, midaz 5 mg, morphine 10 mg, tx to hmc w m16.

VITALS

Initial 20:03:43 P 82, R 12 , BP 142/100 , BG 80, GCS 6=2+2+2 , RTS 10

Final 20:45:21 P 116, R 21 , EtCO2 40, SpO2 90

ASSESSMENTS

20:09:00 **Mental Status:** Unresponsive **HEENT:** Head/Face: Blunt Injury Eyes: Left Pupil: 3-mm, Right Pupil: 3-mm

INCIDENT LOCATION

IMPRESSIONS

Injury of Head

Alcohol use

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What Really Happened?

20:20:48	Oxygen FlowRate: 25 Device: Nasal Cannula (NC) Succeeded							
20:24:09	BP	PULSE 82	RR 15	SPO2	ETCO2 29	BG	PAIN	GCS
20:24:48	BP	PULSE 80	RR 16	SPO2	ETCO2 27	BG	PAIN	GCS
20:24:48	Etomidate - 20 Milligrams (mg) - Intravenous (IV)							
20:24:54	BP	PULSE 89	RR 17	SPO2	ETCO2 27	BG	PAIN	GCS
20:24:54	Succinylcholine - 150 Milligrams (mg) - Intravenous (IV)							
20:26:00	BP	PULSE 106	RR 20	SPO2	ETCO2 11	BG	PAIN	GCS
20:28:56	Orotracheal Intubation Failed							
20:29:09	BP	PULSE 97	RR 6	SPO2	ETCO2 29	BG	PAIN	GCS
20:30:13	BP	PULSE 94	RR 15	SPO2	ETCO2 28	BG	PAIN	GCS
20:31:36	BP 210/128 A	PULSE 95	RR 13	SPO2 95	ETCO2 33	BG	PAIN	GCS

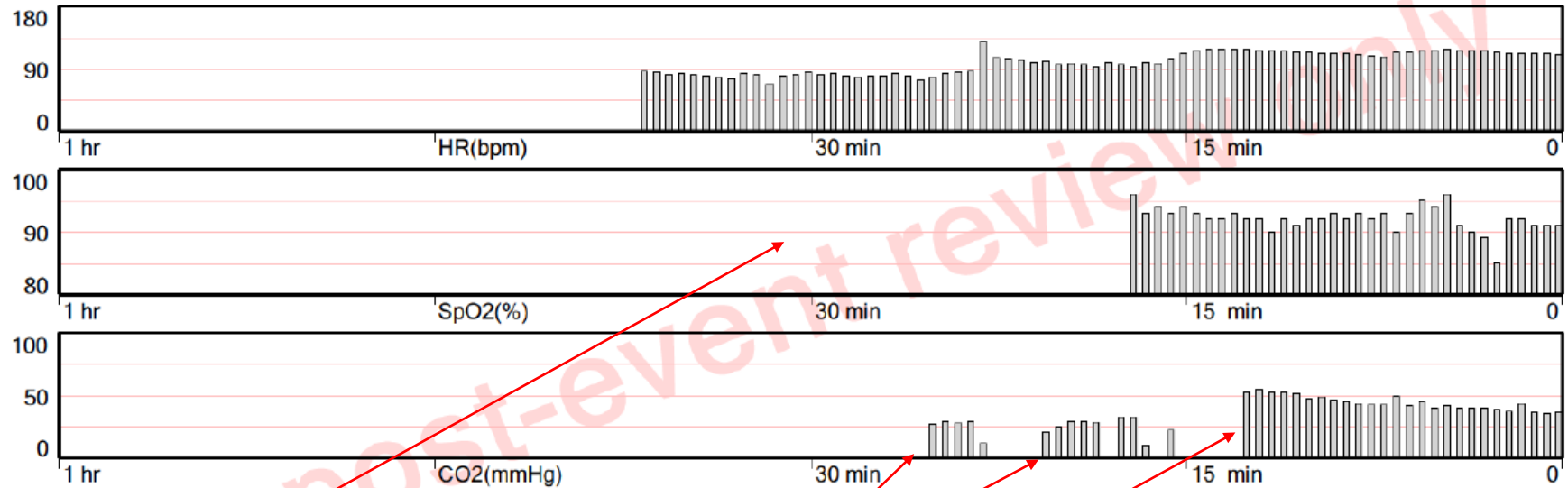
Trends Report

Age: 58

Sex: |

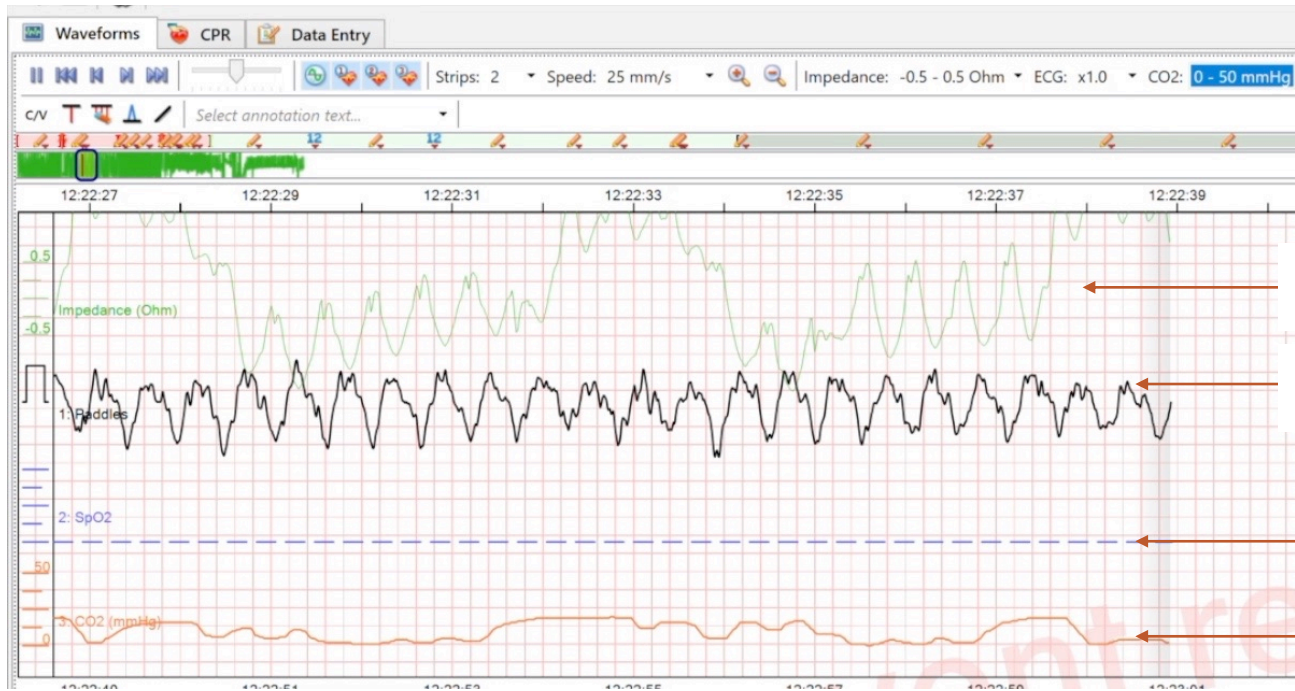
▼ 7:48:39 PM

8:48:39 PM ▼



Missing Pulse Oximetry

Intubation?



← Chest wall impedance (green)

← ECG from pads or leads (black)

← Pulse oximetry (blue)

← End-tidal CO₂ (orange)

Let's Watch the Movie





And 2 minutes later...

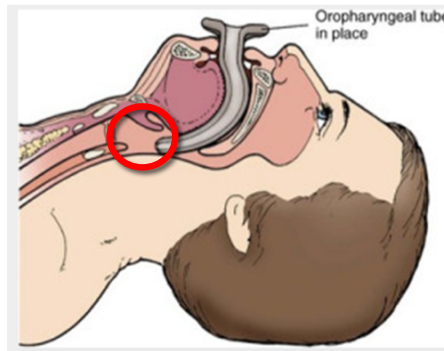




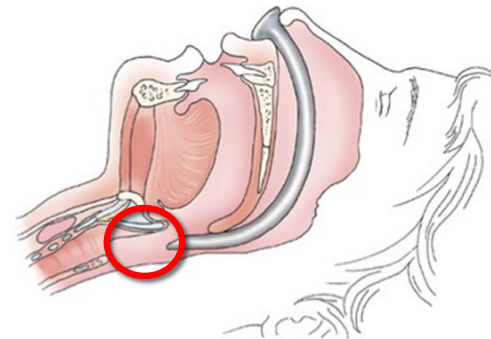
Airway Initiatives

Airway Adjuncts

Oropharyngeal Airway
(OPA)



Nasopharyngeal Airway
(NPA)



Gold Standard Mask Seal

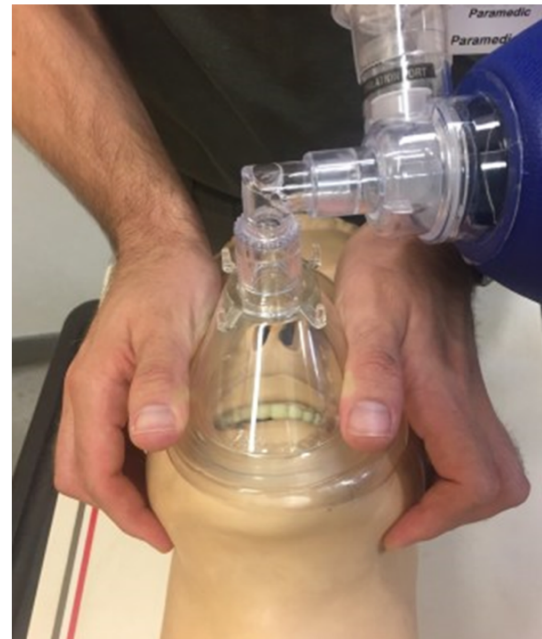


Gold Standard Mask Seal

2-person, 2 handed

- EMT at the head controls the airway and the mask
- EMT to the side ventilates by squeezing the bag

What are the signs of poor ventilation?

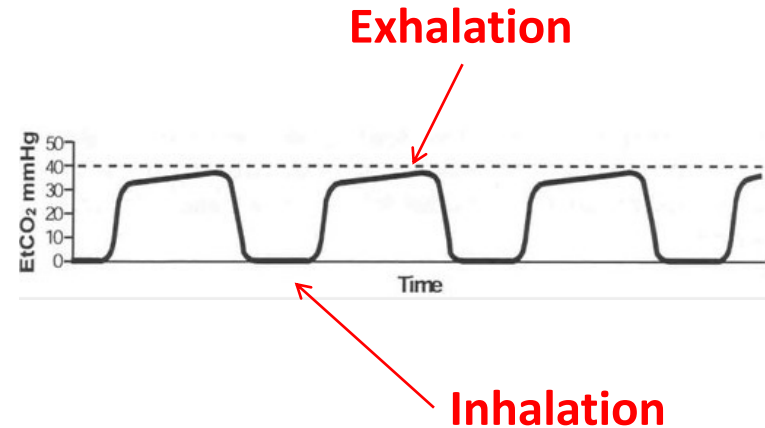


Waveform Capnography

Goal: Maintain end tidal carbon dioxide (EtCO₂)

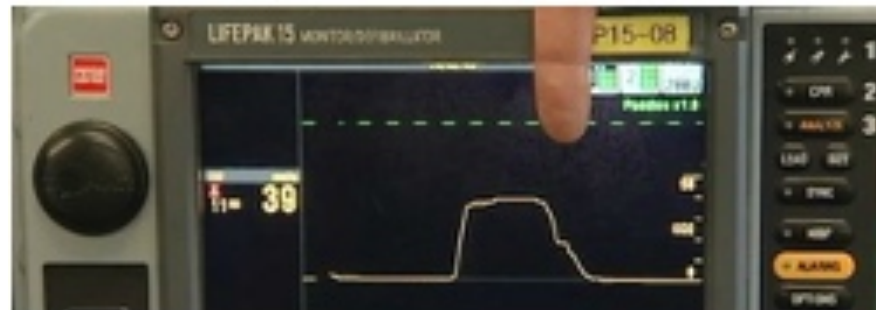
- Target: 35-45 mmHg (in general...)

Ventilation modulates EtCO₂

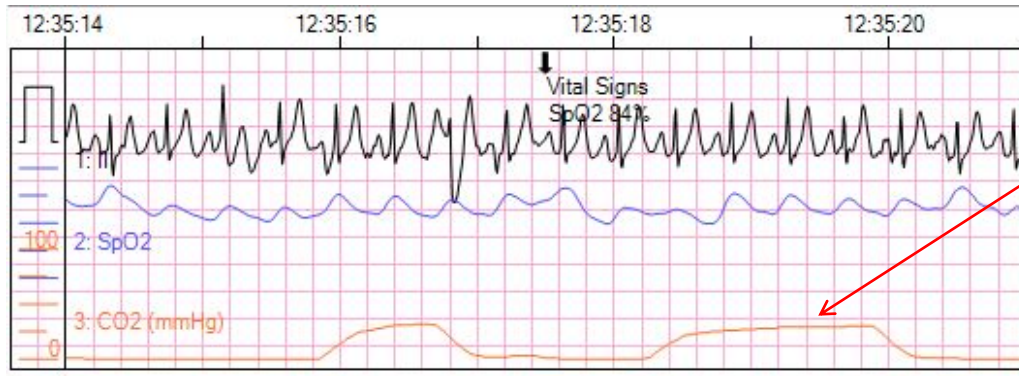


How Do We Confirm Our Mask Seal and Ventilation Effectiveness?

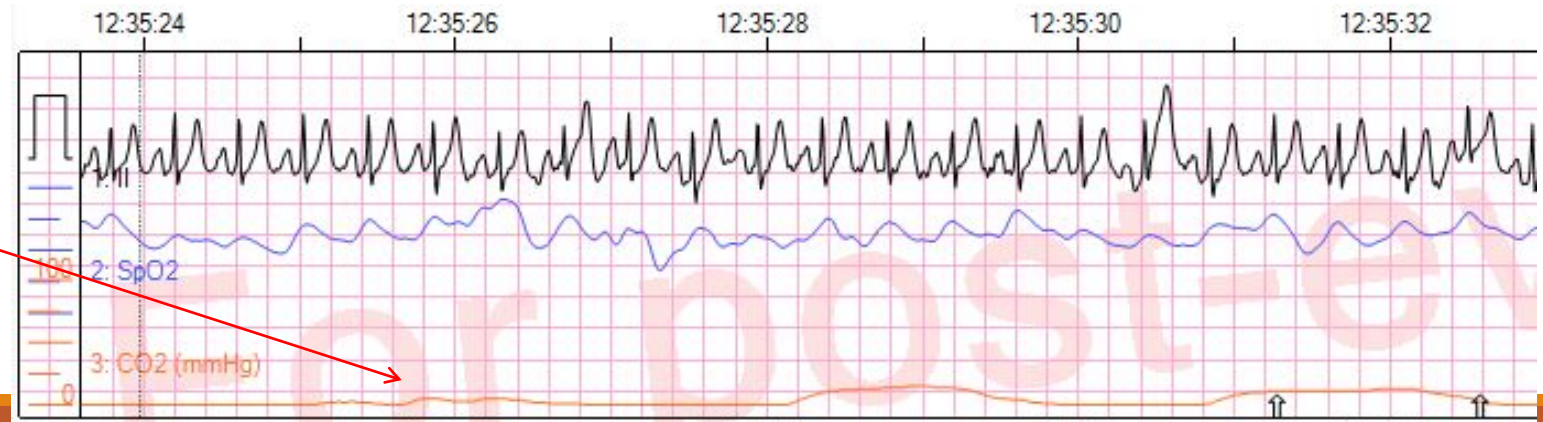
BLS, ALS, Everyone...



EtCO2 and BVM Ventilation



Good mask seal



Poor mask seal

Feedback

Good communication among the team

Inadequate dose of succinylcholine (160 mg vs 200 mg)

- Maybe distracted?

Bag better (almost always with a friend...)

Use your adjuncts

Adequate preoxygenation

Capnography is important to ALL providers



Mr. Success
Sneaky Pete

“Do you want to be an **Eagle**?”

“Or do you want to be a **Shitbird**?”

Be an **Eagle**!

Audio record and review **ALL**
resuscitations and emergent
intubations.



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