MEDICAL ADVISORY COMMITTEE JANUARY 2015 CASES/RUN REVIEW

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Presented by:
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Recorded Live on January 06, 2015
By Engineer Bill Bogenreif

Fire First Responder Basics

- Call Type: Pregnancy / Childbirth
- PSAP 13:38
- Enroute 13:40
- At patient 13:47
- Primary Impression: Other OB / Gyn
- Chief complaint: Patient is c / o that she doesn't feel the baby X 30 minutes

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Fire First Responders Narrative

- No movement noticed for the past 30 minutes of patient 28 week old baby.
- PTA, patient has been pregnant 4 times with 1 live birth.
- This afternoon, patient noticed that the baby was not moving and began to have blurred vision.
- Patient informed family member about the situation and they decided to contact 911 for medical assistance and transport.
- Upon arrival, found 34 y/o female lying on couch in living room and c/o blurred vision and not being able to feel baby.

Fire First Responders Narrative

- Patient was Spanish speaking only and a road worker on the street was used for translation.
- Patient denied c/p, sob, ha, n/v/d, dizziness, abd pain, or recent trauma/illness.
- Patient denied bloody vaginal discharge when she began to experience the baby not moving.
- Arrival County EMS on scene, load onto gurney with assistance and into ambulance, transfer to MICP with no further incident and patient transported to hospital as requested.
- No further incident or significant changes noted.

Fire First Responder PE 13:47

- Mental Status: normal mental status for patient
- Neuro: normal
- Eyes: reactive
- Chest / lungs: normal chest assessment, clear and equal breath sounds
- Heart: normal
- Abdomen: normal, soft non-tender
- Extremities: normal
- GCS 15

Fire First Responder Interventions

- Vital signs, 13:50: BP 185 / 100, HR 79, RR not documented, SpO2 99
- Monitor 13:49 no interpretation
- Blood glucose 13:54 126 mg / dl

County Ambulance Data

- Call Type: Diabetic problem
- PSPAP 13:38
- Enroute 13:40
- At Patient 13:51
- Depart 14:03
- Pt released 14:38

County Ambulance History

- Chief complaint: pregnancy: can not feel baby move X 30 minutes
- Medications: Iron pills, Humulin, prenatal vitamins
- Medical History: Preeclampsia, Gestational diabetes

County Ambulance Narrative

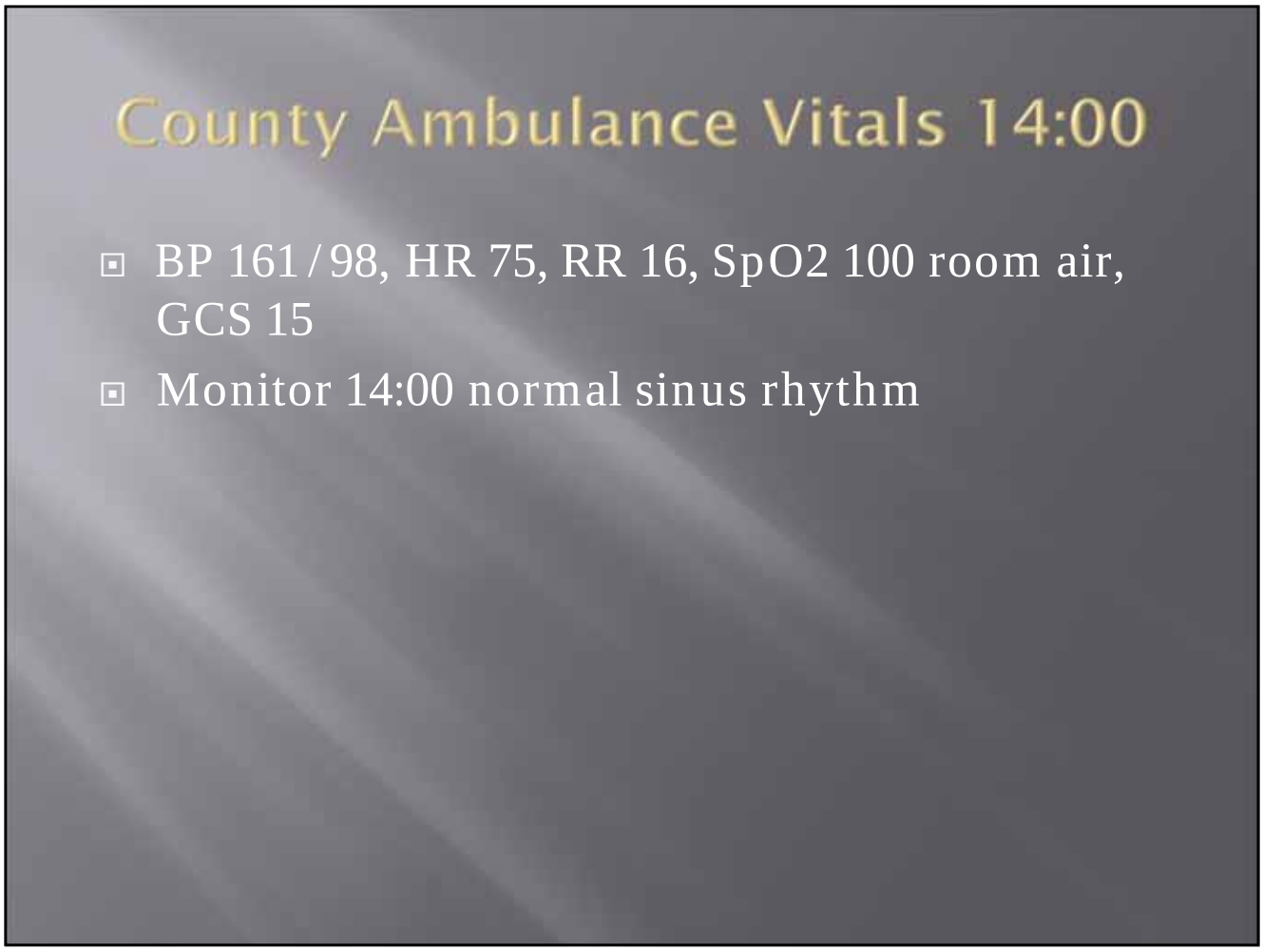
- Medic arrived on-scene to find pt lying supine on couch with fire at patients side.
- Pt is 28 weeks pregnant with a due date of July 2nd. Pt is G4P3, with gestational diabetes and preeclamptic.
- Pt relates to not feeling her baby move since 1320 this evening.
- Pt is denied cramping, spotting, discharge, nausea, dizziness, vomiting or abd pain.
- Primary and secondary PE, VS performed on-scene by fire.
- Pt was assisted to gurney and moved to ambulance.

County Ambulance Narrative

- Secondary PE, VS performed in back of ambulance and while enroute to hospital.
- Pt was transported code 2 without incident or change in pt condition or complaint.
- Upon arrival, pt was sent by charge RN to labor and Delivery.
- At L&D, pt was placed on bed and report given to RN.

County Ambulance PE 14:13

- Mental status: normal for patient
- Neuro: normal
- Eyes: reactive
- Chest / lungs: normal chest assessment, breath sounds clear and equal
- Abdomen: normal, soft non-tender
- Extremities: normal

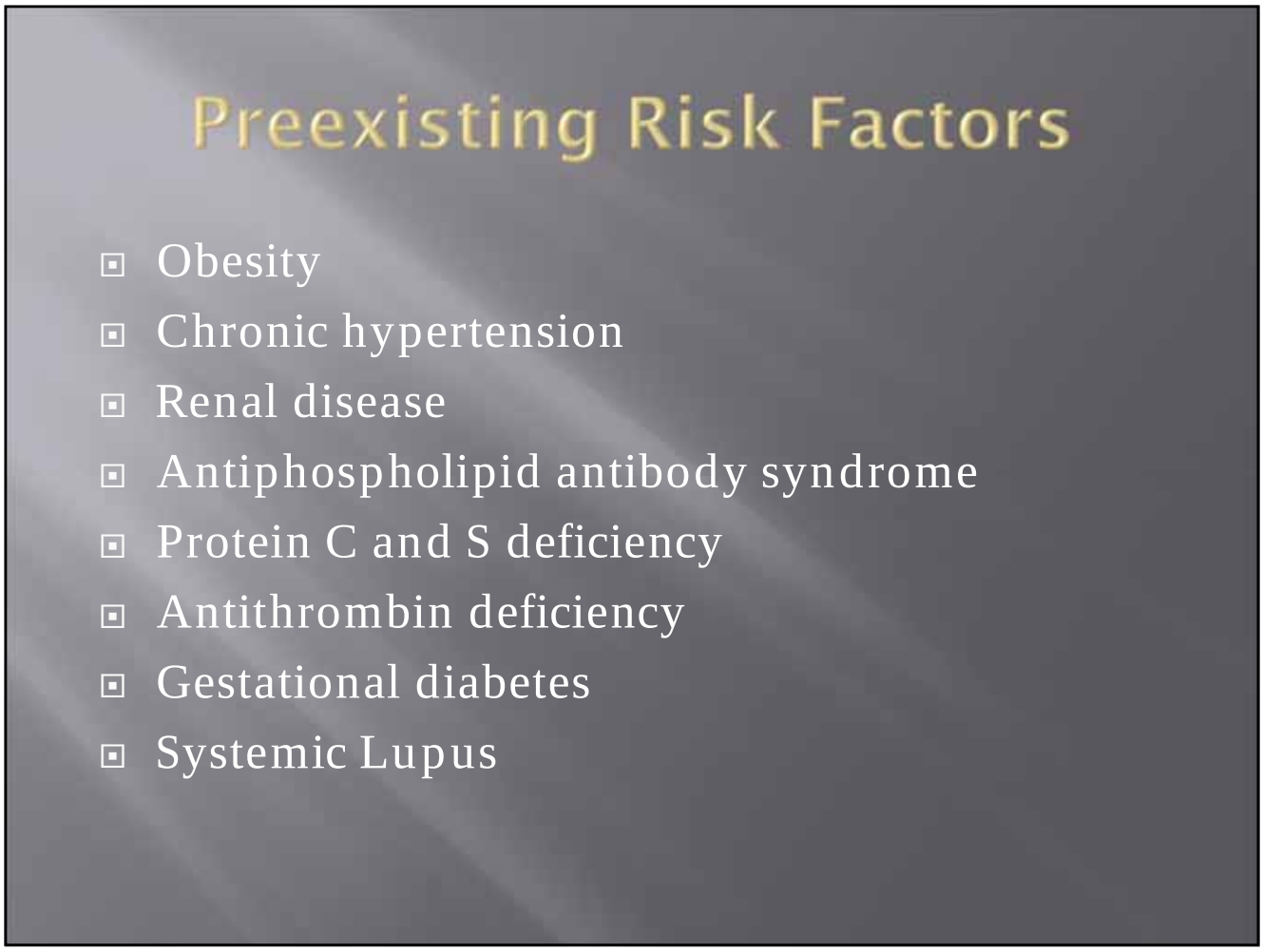


Eclampsia

- 10% of all pregnancies are complicated by hypertension
- 5th century Hippocrates
- Definition: Eclampsia is new onset seizure and / or unexplained coma during pregnancy or postpartum in a woman with signs and symptoms of preeclampsia
- Usually past 20 weeks into the postpartum period
- Fetal Effects: growth restriction, reduced amniotic fluid, abnormal fetal oxygenation

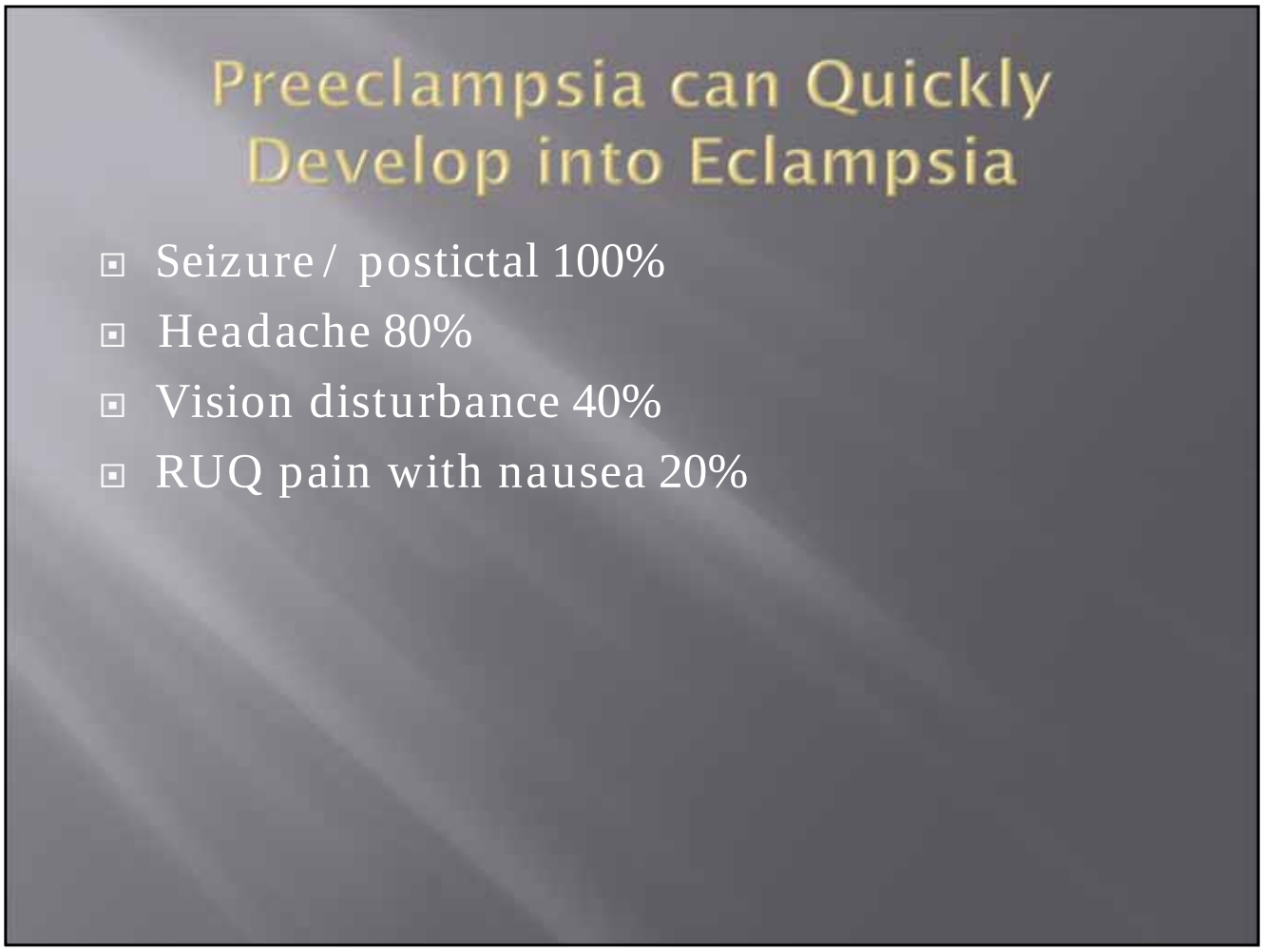
Risk Factors

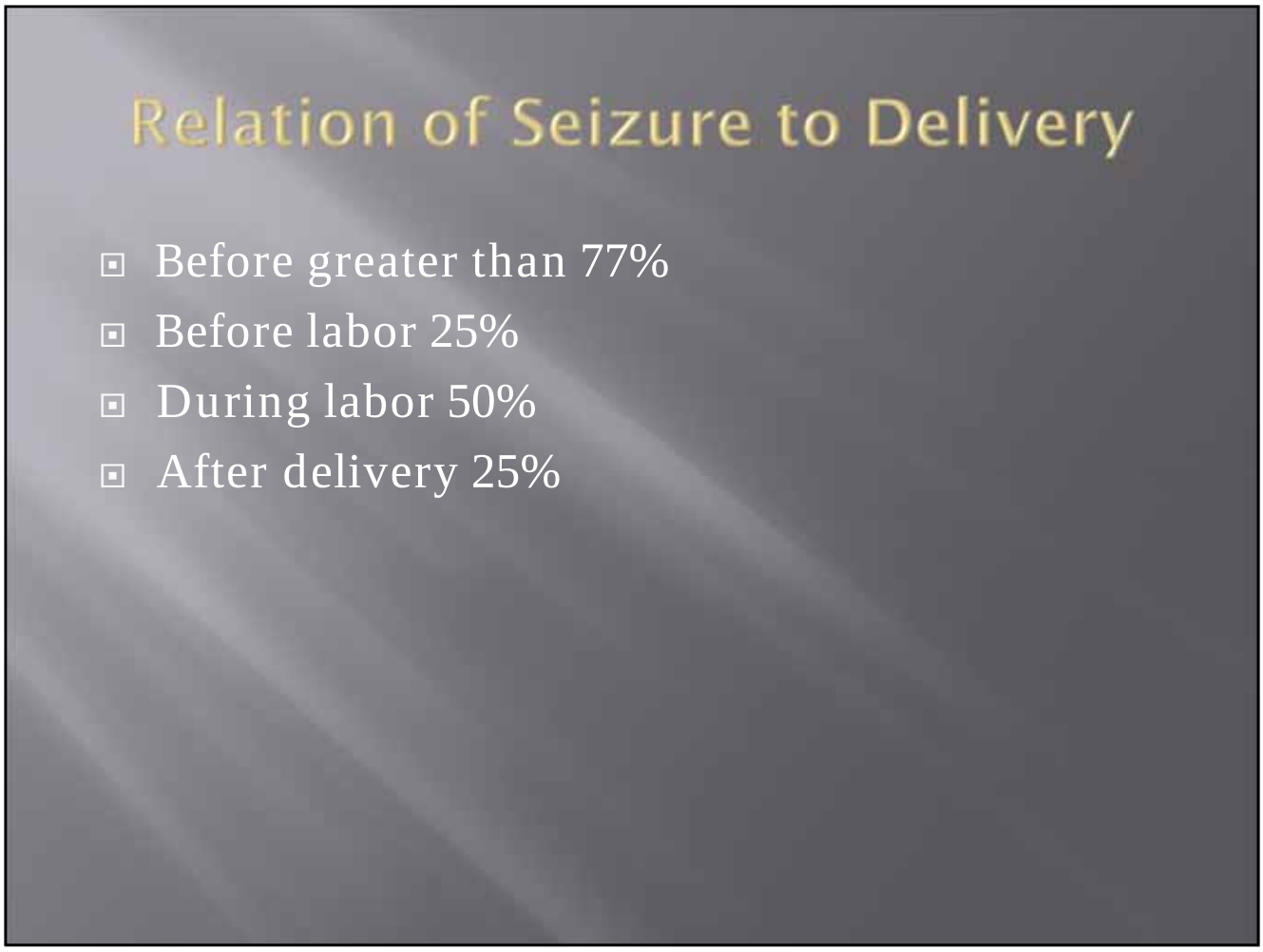
- Nulliparity
- Family history preeclampsia
- Previous preeclampsia and / or eclampsia
- Poor outcomes prior pregnancy
- Multifetal gestations
- Greater than 35 years of age
- Lower socioeconomic status



Physiologic Issues/Concerns

- Cardiovascular: increased peripheral vascular resistance, increased left ventricular work
- Hematologic: decreased plasma volume, increased blood viscosity, hemoconcentration, coagulopathy
- Renal: decreased GFR
- Hepatic: hepatocellular damage, subcapsular hematoma
- Central Nervous System: Loss of autoregulation, cerebral edema, cerebral hemorrhage
- Endothelial dysfunction





Physical Examination

- Sustained BP greater than 160 mm Hg systolic or diastolic BP greater than 110 mm Hg
- Tachycardia
- Tachypnea
- Rales
- Mental status changes
- Clonus
- Right upper quadrant pain / epigastric pain

Laboratory Findings

- Proteinuria
- Elevated Uric Acid levels
- Anemia
- Increased Bilirubin
- Thrombocytopenia
- Increased LFTs
- Increased Creatinine

EMS Treatment

- Intravenous fluids and access
- Cardiac monitor
- Oxygen
- Transport left lateral decubitus position
- Blood pressure control? NTG?
- Treatment of seizures: Loading dose Magnesium 4 to 6 grams over 20 minutes; followed by continuous maintenance infusion 1 to 2 grams per hour

Maternal Morbidity

- Severe hypertension
- Permanent central nervous system issues
- Disseminated Intravascular Coagulopathy
- Renal insufficiency
- Pulmonary edema
- Cardiac arrest

Case #2

- Dispatched for an unconscious person
- Arrived to find fire ventilating a patient with BVM and O2
- Patient was laying in bed in respiratory arrest
- Patient's daughter reported he had a h/o lung cancer and is in the process of starting hospice
- Patient does not have hospice initiated yet
- Patient's daughter reported that MD is placing on hospice and she does not know if it is patient choice
- Patient's daughter wishes resuscitation

Case #2

- Patient's daughter reported, patient had IN chemo treatment approximately 3 months ago and did not tolerate it and patient wished to not have that treatment anymore
- Patient was then placed on PO treatment
- Medications: ASA, Coreg, Lantus, Lasix, Lipostat, Neurotin, Niacin, Novalog, Cilastazol, Omeprezaol, Ipatropium, Zofran, Atropine, Hydromorphone, Lorezapam
- PMH: Diabetes, HTN, CHF, Lung CA

Case #2

- Patient with ineffective respirations
- Skin pale, cool, dry
- Patient lower extremities with plus 3 edema
- Patient was intubated with direct cord visualization
- Bilateral breath sounds with no epigastric noises noted
- Initial ETCO2 58
- Patient extricated from back bedroom to gurney and then LSU

Case #2

- At 0148 patient found to have no pulses
- Cardiac monitor showing PEA at rate of 80
- CPR was initiated and performed by Fire
- IV epinephrine as noted after 2nd epinephrine revealed patient to have carotid pulse at rate of 100
- No radial pulses and no blood pressure
- IV fluids wide open with no effect on patient's BP
- Dopamine drip initiated as noted with patient regaining palpable pulse

Case #2

- Phone report to base hospital with no questions or orders
- 0207 revealed patient to having no palpable pulse
- Cardiac monitor revealed PEA at rate of 100
- Dopamine discontinued
- CPR was initiated
- Epinephrine as noted
- Arrived at hospital with CPR continued
- Report to MD and staff

Case #2

- Patient with ROSC
- 0129: eyes reactive, Head / face: normal, Abdomen: unremarkable, mental status: unresponsive, Neuro: not applicable, Heart: not done, Chest / lungs: sounds present all fields, Extremities: edema
- Vitals: 0135 BP 101 / 60, HR 88, RR 12, SPO2 66% ETCO2 58, GCS 3
- 0203: 123 / 57, HR 100, RR 12, SPO2 61%, ETCO2 48

Case #2

- 0129 Oxygen 15 lpm
- 0149 Epinephrine 1 mg
- 0154 Epinephrine 1 mg
- 0159 Dopamine 5mcg / kg / min
- 0209 Epinephrine 1 mg
- EKG ? Slight ST elevation V3 and V4

Case #2

- Discussion
- Care appropriate?
- What went well?
- What could have been approved?
- Recommended changes to protocol?

Case #3

- Dispatched to private code 3 for chest pain in a 52 year old female
- On arrival met by husband who escorted to patient
- Seated in living room on sofa patient appears in mild distress
- Patient stated that she has been having a pressure and burning sensation in her throat and upper chest
- She states that she has been having this discomfort for the past few hours
- She says she has had this sensation a few months ago and treated with a unknown antacid which resolved the issue

Case #3

- She was concerned due to a prior cardiac event in March, which required a stent be placed in the right coronary artery
- Patient denies any SOB / N / V / she did take a spray of NTG at approximately 0230 which provided no relief of her symptoms
- Patient also denies any radiation during this event, though she experienced shoulder pain with the event in March
- Patient also stated she felt that she might be dehydrated following a airplane flight she had earlier in the day

Case #3

- 52 year old female, A&O X4
- Skin PWD, Head atraumatic, PERRL
- Face symmetric, HEENT WNL, Neck WNL
- Chest rise and fall equal, Bilat w / adequate tidal volume, No noted abnormalities
- Abd WNL, Pelvis stable, MAEW W.Distal CSM's Intact

- POSSIBLE ESOPHAGEAL REFLUX

Case #3

- Vitals 0254: BP 176 / 91, HR 90, RR 14
- 0259: 172 / 89 HR 81, RR 14
- Negative stroke scale
- 0259 EKG: normal sinus rhythm, poor baseline, non-specific T wave changes

Case #3

- Patient exam VS taken
- Cardiac monitor applied w/12 lead obtained showing NSR W/O ectopy
- Patient stated she did not want transport or any further care at this time
- Patient was advised to seek further care from a physician or call EMS if needed.
- Patient signed refusal of care form and was left in her own care

Case #3

- Discussion
- Care appropriate?
- What went well?
- What could have been improved?
- Recommended changes to protocol?

Case #4

- Dispatched for anxiety 79 year old female
- Arrived at scene and found fire and had placed patient on 15 lpm
- Sitting in chair chief complaint of not feeling well and SOB
- Patient's son at scene reported that patient had some chest pain earlier in the day that went away and tonight she was fine ate some cheese cake and started to not feel well
- Patient recent history of legs that has MRSA, put on antibiotics for that
- Patient was having labored respirations and was not able to speak without exacerbating her SOB

Case #4

- Attempted to obtain further PMH from patient's son but he was distracted state and was not able to communicate detailed PMH
- Only PMH obtained at scene was noted above and CHF also a home nurse comes and see patient

Case #4

- Patient conscious and alert, patient skin pale / cool / diaphoretic
- Patient with severe labored respirations and was not able to speak in 1 to 3 word sentences would exacerbate her SOB if she spoke too much
- Patient with accessory muscle retractions of her throat
- Patient's legs we bandaged from feet to knee
- Patient denies CP
- LS were diminished in all fields
- LS too diminished to hear rales or wheezes
- Rest of AX as noted above

Case #4

- LSU gurney was not able to be taken into house because of house design
- Patient was extricated out of house using blanket carry
- Patient transferred to gurney then LSU
- TX as noted
- Pt's pulse OX and respiratory efficiency increased after CPAP was established
- Radio report to base hospital advising pt in severe respiratory distress and to have respiratory and intubation ready, no questions or orders

Case #4

- During transport pt's ALOC and respiratory effort decreased with pulse ox decreasing
- Patient ineffective respirations on CPAP
- CPAP removed and pt ventilated using BVM on 15 lpm O2 by fire
- Pt ventilated at rate 16 to keep pulse ox 86% to 88%
- Pt with gag reflex
- Radio report to base hospital with advising of respiratory failure
- No further questions or orders
- Arrived base hospital without further change in pt

Case #4

- Report to RN and MD at pt's bedside
- Care turned over to hospital
- Pt's home medical paperwork given to RN at bedside
- No further pt contact
- All times approximate

Case #4

- Medications: Clonazepam, Flurdrocortisone, Levothyroxine, Midodrine, Potassium, Sertaline, Tramadol
- PMH: CHF, Cardiac arrhythmia
- Vitals: 0210 BP 215 / 173 HR 119, RR 40 SPO2 88
- 0218 BP 198 / 173 HR 121 RR 40 SPO2 81
- 0225 BP 193 / 165 HR 119, RR 18, SPO2 88

Case #4

- Discussion
- Care appropriate?
- What went well?
- What could have been improved?
- Recommended changes to protocol?

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Case #5

- Dispatched code 3 to address noted for man down, Fire also dispatched
- En route dispatched pre-arrivals have been given but RP is unable to move patient to initiate CPR
- On arrival to private residence to fond Fire at scene
- Firefighter advised due to confined space and large size of patient they are currently working on extricating him from bathroom
- On arrival to patients side to find Fire in the process of dragging patient into living room and out of the confined bathroom / hallway
- It was reported that patient a 47 year old male weighing approximately 320 pounds, went to the bathroom when family heard what they thought was a “thud” and found patient in the bathroom face down and unable to move him

Case #5

- Per family patient was last seen “7 minute” prior to calling 911 and finding patient down
- After being extracted to an area where proper and further treatment could be provided fire rescue initiated CPR
- OPA placed by fire and ventilated with BVM with high flow O2
- Rapid assessment confirmed patient pulses and apneic with fixed and dilated pupils, pale, warm and dry to the touch
- Family at scene reported patient having history of gastric bypass 12 years ago, arthritis and also c/o “heartburn” for 2 weeks
- Family denied any other recent illness or history
- Family denied any other recent illness or history and NKDA

Case #5

- Quick pads placed on patient as well as 4 lead, interpretation of cardiac rhythm revealed asystole
- CPR quickly re initiated
- No quick IV access found with in reasonable time, IO tibia with adult needle successful first attempt, 1000 ml NS wide open with pressure bag initiated
- BS 193 mg / dl via FS
- Epinephrine 1 mg 1:10,000 given via IO
- King Airway size 5 inserted by Fire successful with 1 attempt

Case #5

- Placement confirmed by MICP with bilateral LS present, equal chest rise / fall and ETCO2 of 41
- Rhythm check asystole CPR quickly reinitiated
- Rhythm check revealed V-fib and CPR reinitiated while CM charged to 200 and shocked administered after confirming all personnel cleared of patient
- CPR continued
- Amiodarone 300 mg via IO
- Rhythm check V-fib and CPR reinitiated and CM charged to 360

Case #5

- Delivered after confirming all personnel cleared of patient
- CPR continued, epinephrine 1 mg 1:10,000 delivered via IO
- Patient placed on hard backboard by all personnel and onto gurney in preparation to extricate patient
- Patient extricated with all personnel due to size of the patient
- Patient to LSU with no changes and without incident
- Patient continued with clear LS and proper King Airway placement, ventilations continued without difficulty
- Rhythm check V-fib and CPR continued after check

Case #5

- CM charged to 360 J, shock delivered after confirming all personnel were clear from patient, CPR continued
- Patient transported to hospital with 2 firefighter riders
- En route epinephrine 1 mg via IO 1:10,000. Rhythm check PEA, CPR immediately initiated.
- Patient report given, orders for sodium bicarbonate obtained by MD for 1 amp (50 meq) of sodium bicarbonate to be administered
- Rhythm check with sinus tachycardia with PVCs, carotid pulse weak and was present for approximately 60 seconds
- No BP was able to be obtained

Case #5

- Patient then returned to PEA, CPR initiated and sodium bicarbonate administered via IO
- Rhythm check with sinus tachycardia at 120 bpm, BP 102/65 via automated BP cuff and ETCO2 41 SPO2 98%
- Patient report to hospital with update on condition
- Patient shortly after returned to PEA, CPR administered
- Epinephrine 1 mg 1:10,000 via IO
- Rhythm check PEA and CPR continued
- Patient on arrival to ED, transfer of patient care at bedside to ED staff
- No further patient contact no belongings transported with patient

Case #5

- Examination 0833: unresponsive, pupils fixed / non-reactive
- Lungs LS clear with BVM with ventilations
- 0908:102 / 65, HR 120, RR absent SPO2 98, ETCO2 41, GCS 3 BG 193
- 0833 Sinus tachycardia
- 0834 Asystole
- 0836 Asystole
- 840 Asystole
- 0842 V-fib
- 0845 V-fib

Case #5

- 0847 V-fib
- 0851 V-fib
- 0855 PEA
- 0859 PEA
- 0902 Sinus Tachycardia
- 0903 PEA
- 0905 Sinus Tachycardia
- 0910 PEA
- 0912 PEA

Case #5

- 0833 CPR
- 0833 Adult assessment
- 0834 BVM
- 0836 CPR
- 0838 IO insertion
- 0838 Blood glucose
- 0840 King Airway
- 0842 Defibrillation 200 Joules
- 0845 CPR

Case #5

- 0845 Defibrillation 200 Joules
- 0847 Defibrillation 360 Joules
- 0847 CPR
- 0848 Extrication
- 0851 Defibrillation 360 Joules
- 0903 CPR
- 0910 CPR
- 0912 CPR

Case #5

- 0834 O2 15 liters
- 0839 Epi 1 mg
- 0844 Epi 1 mg
- 0846 Amiodarone 300 mg
- 0848 Epi 1mg
- 0852 Epi 1 mg
- 0857 Epi 1 mg
- 0900 Sodium bicarbonate 50 meq
- 0911 epi 1 mg