Altered Mental Status
Karl Sporer, MD FACEP, FACP
Clinical Professor
UCSF
High Risk Emergency Medicine

Altered Mental Status
- Patients over 65
  - 25% will have some form of AMS
- Unknown Economic Impact

Altered Mental Status
- Make up 5% of our Emergency Department patients
- 2% to 3% present for accidental or deliberate poisoning.
  - 23% of these will have AMS

Altered Mental Status
- Graph showing trend over time
Altered Mental Status

- Scourge of the CT Scanner
- Estimated that 1.5 to 2.0% of all current cancers may be attributable to the radiation from CT studies
  

Altered Mental Status

- Heroin Toxidrome
  - AMS,
  - Pinpoint Pupils
  - Decreased Respiratory rate
  - Diagnostic Sensitivity 92%
  - Specificity 76%
    

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- Principle 1
  - Is the patient breathing enough?
    - If not, then fix it.

  One Caveat
  - Suspected Heroin Overdose

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- Heroin Overdose Toxidrome
  - Naloxone 0.4 to 2 mg IM, IV or IN
    - Adding a complete naloxone response to the clinical criteria lowered the sensitivity to 86%

  Partial Naloxone Response
  - 2 out of 32 partial responders
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- Naloxone Treatment of Heroin Overdose is associated with a consistent rate of complications
  - Seizures (1-2%)
  - Arrhythmias (<0.5%)
  - Agitation (10-17%)

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- **Principal 2**
  - Is the patient perfusing his brain adequately?
    - If not, then fix it.

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- Suspected Heroin Overdose
  - Blue- Get Naloxone
  - Not Blue- Observe

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- **Principle 3**
  - Does the patient have enough glucose going to his brain?
    - Measure fingerstick glucose
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- **Principle 4**
  - Does the patient need a head CT?
    - Trauma
    - Focal neurological exam
    - Worsening or not improving GCS

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- Suspected Intoxication
  - Ethanol
  - Sedative
  - Opiates
  - Sympathomimetics

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- Toxidromes
  - Anticholinergic
    - Mad as a Hatter
    - Blind as a Bat
    - Red as a Beet
    - Full as a Tick

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- Pupils
  - No Literature on the Utility of Pupil Exam
  - Except
    - Pinpoint pupils and GCS of 3
    - Blown pupil and GCS of 3
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- **Principle 5**
  - Scrutinize the Vital Signs
    - Hypothermia
    - Tachycardia
    - Bradycardia
    - Fever

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- Approach to a Suspected Isolated Alcohol Intoxication
  - ABC, Glucose, Vital Signs, Nonfocal Exam
  - Must be able to verbalize. Minimum GCS of 12
    - No IV, No Blood Alcohol Level, No Laboratory Work, No Toxicology Screen
    - Test of Clinical Observation
    - Aware of Potential for Missed Head Injuries

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- Alcohol Intoxication
  - 7.1 Million Alcohol Related ED Visits per Year
  - 7.9% of ED Visits


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- Approach to a Suspected Isolated Alcohol Intoxication
  - Blood Alcohol Levels
    - Don’t correlate with GCS
    - Don’t rule out head injuries
    - Don’t explain any vital sign abnormalities
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- Approach to a Suspected Isolated Alcohol Intoxication
  - Glasgow Coma Scale
  - Serial exams
  - Reconsider CT for No Improvement in 2-3 hours

- Sedative/Opiate Intoxication
  - If they can talk, observe them

- Case Management
- Screening, Brief Intervention, and Referral

- Prospective Study of 359 Suspected Intoxicated Patients
  - Suspected Class of Drug Correlated with Toxicology Screen
  - Correct in Over 70% of Patients
  - Benzodiazepines had the lowest correct rate
  - Underestimated Drug Use

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- Undifferentiated Violent, Agitated Patient
  - Physical Restraints
  - Beware the Hogtie Position
  - Be Very Concerned with Respiratory Arrest
  - Unknown Mechanism
  - Occurs in SF 4-5 times each year

- Beware the Hogtie Position

- Beware of Hyperthermia

- 4 Point Restraints
- Position on Back
- IM Sedation
- Vital Signs
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- Undifferentiated Violent, Agitated Patient
  - Limited referrals for these patients
  - Increased HIV transmission rate
  - Contingency Based Treatment

Altered Mental Status

- ABC’s
- Glucose
- Neuro Exam
- Serial GCS
- Observation alone adequate if the patient can talk
- Always reconsider when there is no improvement

Altered Mental Status

- No change after Observation
  - Send baseline labs
  - Reassess Vital Signs
  - Reconsider CT scan
  - Consider
    - Hepatic Encephalopathy
    - Post iccal
    - Nonconvulsive status epilepticus
    - Unusual OD, baclofen, GHB

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- Questions?