

## Medical Emergencies with local anesthetics

### SYNCOPE:

- A sudden, transient loss of consciousness that usually occurs secondary to a period of cerebral ischemia
- 2 different types of precipitating factors.
  - Psychogenic factors:
    - Fright, anxiety, emotional stress====LOCAL ANESTHETICS
    - Pain—sudden unexpected
    - Sight of blood
  - Nonpsychogenic factors: Possible factors with local anesthetics
    - Position, hunger, exhaustion, physical condition
    - Hot, humid, crowded environment

- Additional factors

Age	Gender
History of past episodes	

- Prevention

HHX Review	Understanding of health history
Stress reduction	Air ventilation
Position	Small meal, juice, etc...

- Stages:

- Pre-syncope
- Syncope
- Post –syncope

- Signs/Symptom **Pre-syncope**

Feeling warm neck/face	Increased pulse, depth of breath
Loses color...especially in the face	Pupils dilate
Breaks out into cold sweat	Blood pressure and heart rate rapidly decrease
Clammy hands and feet	Disturbed vision
Report of feeling funny/bad/faint	Becomes dizzy

- TREATMENT

<b>STOP</b> treatment	Use oxygen if needed
Position patient into a supine position	Make note of what caused episode
Encourage leg movement	Continue with treatment if patient able

- **Syncope** Signs/Symptoms

Actual loss of consciousness has occurred	Convulsive movements
Changes in breathing	Bradycardia continues
○ Jerky/irregular	Pulse is weak and thready
○ Quiet and shallow	Extremely low blood pressure
○ May stop	Possible loss of bladder/bowels
Pupils can fully dilate	<b>AIRWAY OBSTRUCTION</b>

- TREATMENT

Position	Monitor vitals
Deliver oxygen	Loosen tight clothing i.e. tie, collar, belt
Ammonia inhalant	

**HYPERVENTILATION:**

- Terms:

- TACHYPNEA: GREATER THAN NORMAL RESPIRATORY RATE
- BRADYPNES: LESS THAN NORMAL
- HYPERPNEA: GREATER THAN NORMAL VOLUME OF BREATHS
- DYSPNEA: SUBJECTIVE SENSE OF SHORTNESS OF BREATH. "AIR HUNGER"
- APNEA: ABSENCE OF BREATH/RESPIRATORY MOVEMENT

- PREVENTION

- HHX review
- Stress reduction

- SIGNS AND SYMPTOMS

Apprehension	Numbness/tingling of arms and legs
Air hunger – feels like can't catch breath	Carpo-pedal spasm: cramping of arms and legs
Rapid, shallow breathing	Chest tightness
Confusion	Syncope – Which will stop hyperventilation
Vertigo: dizziness	

- MANAGEMENT

Calm, reassure patient	As patient recovers – take vital signs
Make patient aware how fast they are breathing	Can continue with treatment
Have patient match breathing with yours, using eye contact	

**ANESTHETIC OVERDOSE:**

- Predisposing factors

- Patient
  - Age
  - Weight
  - Pathologic process (how the body process)
    - Patients disease process congestive heart failure
    - Hepatic/kidney failure
  - Genetics
  - Pregnancy
  - Psychological set of patient
- Drug itself
  - Vasoactivity/Solubility
  - Dose
    - Review the manufactures MRD
  - Route of administration

- Does it enter the blood?
- Is the area vascular?
  - Oral mucosa-vs-palatal tissue
- Rate of injection
  - If it goes in quick (15 seconds) increased opportunity
- Vasoconstrictors

**SIGNS AND SYMPTOMS LOW-MODERATE AMOUNT**

Confusion  
Talkativeness  
Apprehension  
Excitedness  
Slurred speech

Generalized stutter  
Muscular twitching/tremor  
Nystagmus (rapid, jerky, eye movement)  
Elevated: BP, Pulse, Resp

**TREATMENT LOW-MODERATE**

Stop treatment  
Place patient in comfortable position  
Reassure  
BLS/CAB as needed

O2 – tell patient to deep breath (will help prevent seizure)  
Monitor vitals  
911 if signs and symptoms increase in intensity

**SIGN/SYMPTOM HIGH AMOUNT**

Generalized tonic-clonic seizure  
Followed by:  
  Generalized CNS depression  
  Decrease BP, pulse, resp  
Headache  
Lightheadedness  
Dizziness  
Blurred vision  
Can't focus

Ringing in ears  
Numbness of tongue/perioral tissues  
Flushed or chilled  
Drowsiness  
Disorientation  
Loss of consciousness

**TREATMENT HIGH AMOUNT**

- Rapid onset: signs and symptoms appear during injection or immediately after
- Delayed: sign and symptoms evolve over 10 minutes or more

Tonic-clonic seizure protocols  
Loss of consciousness  
Supine  
911 unless patient regains consciousness right away

CAB/BLS  
O2 – EXTREMELY important  
Protect patient  
Monitor vitals  
Postictal – CAB and vitals

**VASOCONSTRICTOR OVERDOSE**

Elevated BP and P  
Fear  
Anxiety  
Tenseness  
Restlessness

Throbbing headache  
Tremor  
Perspiration  
Dizziness  
Palpitations

**Management**

Usually only lasts few minutes  
Reassure patient  
Position of comfort

Monitor VS, every 5 minutes until return to baseline  
O2 if needed