FIRST AID
ON THE FLIGHT LINE

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Today's Topics

- Sunburn
- Overexposure and Skin Cancer risk
- Dehydration
- Heat Exhaustion
- Heat Stroke
- Treatment of Minor Injuries
- When to call 911
- Q&A Session
SUNBURN

• Usually first degree
• Rarely second degree
• Never third degree
• Worse 24-48 hours after exposure
• Home treatments-cool baths with baking soda followed by application of lubricating lotions or cream
• Acetaminophen or Ibuprofen
• Heal in five days
• If a large surface area is affected or in child or elderly seek medical attention
• Risk factor for skin cancer
SKIN CANCER

• Greater than 1 million cases of nonmelanoma skin cancers diagnosed annually.
• Melanoma approx 60,000 cases diagnosed per year.
• 10,000 deaths annually, 80% from melanoma.
• Squamous cell carcinoma-metastatic spread
• Basal Cell Carcinoma- local spread
RISK FACTORS FOR SKIN CANCER

- Unprotected and/or excessive exposure to ultraviolet (UV) radiation
- Fair complexion
- Occupational exposures to coal tar, pitch, creosote, arsenic compounds or radium
- Family history
- Multiple or atypical moles
- Severe sunburns as a child
Detection of Skin Cancer

• Any change in the skin, especially in the size or color of a mole or other darkly pigmented lesion or a new growth
• Scaliness, oozing bleeding or change in the appearance of a growth or nodule
• The spread of pigmentation beyond its border
• A change in sensation, itchiness, tenderness or pain.
Prevention of Skin Cancer

• Avoid the sun between 10am and 4pm
• Seek shade-shadow rule
• Protective light colored clothing
• Use sunscreen and lip balm with SPF15 or higher if you are going to be in the sun for greater than 15 minutes.
• Hat
• Sunglasses with 99%-100% UV absorption
• Avoid other sources of UV light
DEHYDRATION

• Majority of the body is water (up to 75%)
• Majority of the water is intracellular
• Fluid in must equal fluid out
• Daily requirement approximately 2 liters
• Causes include vomiting, diarrhea, sweating, diabetes, inability to drink
Symptoms of Dehydration

• Thirst and decreased urine output (deeper yellow color) initial symptoms
• Secondary symptoms include
  – Dry mouth
  – Stop making tears
  – Sweating may stop
  – Muscle cramps
  – Nausea and vomiting
Symptoms - continued

- Lightheadedness especially while standing (orthostatic hypotension)
- Increased heart rate- heart has to pump faster to deliver fluid to the tissue (cardiac output = stroke volume x heart rate).

- Tertiary symptoms include
  - Confusion and weakness as the body receives less blood
  - Coma and organ failure
Diagnosis

• Mental Status- is patient awake, alert and oriented

• Vital signs
  – Blood pressure and heart rate are taken with the patient sitting up and laying down- caveat- if patient is taking beta blockers for high blood pressure this may interfere
  – Respiratory rate
DX - continued

- Temperature to assess fever
- Skin loses its turgor-less elasticity
- Sunken eyes
Treatment of Dehydration

• Water
• Clear broths
• Popsicles
• Jello-O
• Gatorade/Powerade and Pedialyte
• Urine output is the gold standard to assess rehydration
Heat Exhaustion

• Milder form of heat related illness
• People prone to this are
  – Elderly
  – People with high blood pressure
  – People working or exercising in a hot environment
Heat Exhaustion—Diagnosis

- Heavy Sweating
- Paleness
- Muscle cramps
- Fatigue
- Weakness
- Dizziness
- Headache
- Nausea or vomiting
- Fainting
Heat Exhaustion - Treatment

- Cool nonalcoholic beverages
- Rest
- Cool shower or bath
- An air conditioned environment
- Light weight clothing
- If the symptoms are severe and/or the patient has heart problems or a history of hypertension call 911
- If untreated this can progress to heat stroke
Heat Stroke

• Medical emergency
• Form of hyperthermia with accompanying neurological symptoms
• Temperature can rise to 106 degrees F or 41.1 degrees C
• Exertion in extreme heat when patient cannot dissipate the heat fast enough or if the patient becomes dehydrated and therefore cannot dissipate the heat
Heat Stroke - Diagnosis

• Those most susceptible include
  – Infants
  – The elderly-associated with heart, lung or kidney disease, or taking medications that make them vulnerable
  – Athletes
  – Outdoor workers
  – Glider pilots and Ground Crew in summer extreme heat
Heat Stroke Symptoms

- Can mimic those of a heart attack
- Mimic heat exhaustion but some can go straight to heat stroke without any warning
- High body temp
- Absence of sweating with hot red or flushed dry skin
- Rapid pulse
- Difficulty breathing
Heat Stroke Symptoms

- Strange behavior
- Hallucinations
- Confusion
- Agitation
- Disorientation
- Seizure
- Coma
Heat Stroke - Treatment

- CALL 911
- Get victim to a shady area
- Remove clothing
- Apply cool water to the skin and fan to facilitate sweating and evaporation
- Ice packs in armpits and groin
- Monitor temperature until it drops to 101
- ES can give instructions if their arrival is delayed
Treatment of Minor Injuries

• Cuts and scrapes
• First step is to stop the bleeding by applying pressure for 10-20 minutes. If the bleeding does not stop → seek medical attention
• If bleeding stops- clean the wound with soap and water and gently remove any foreign material. Hydrogen peroxide and betadine may be used initially but not long term.
• Cover with light gauze or band aid
• Seek medical attention if the cut goes below the skin and fat can be seen
Minor injuries

- Puncture wounds
- Higher risk of infection
- Clean the wound (usually not much bleeding)
- Ice packs may decrease the swelling
- Monitor closely for signs of infection
Tetanus

• Most have been immunized
• Lockjaw is the common term
• Booster shots every 10 years
• Booster within five years if wound is very dirty or occurs in a tetanus prone areas (rural areas or poverty stricken areas)
• Incomplete series of three shots- you may need tetanus immunoglobulin to prevent lock jaw
• Symptoms of Heat Stroke
• Symptoms of Heart Attack
  – Anxiety
  – Back Pain
  – Cold Sweat
  – Jaw or left arm pain
  – Abdominal pain- nausea
  – Chest pain”-elephant sitting on my chest”.” Vise squeezing my chest”
• Symptoms of Stroke
  – Sudden numbness of the face, arm or leg especially on one side of the body
  – Loss of voluntary movement and or sensation
  – Sudden confusion or trouble speaking
  – Weakness in the face which can cause drooling
911- cont

- Sudden trouble seeing in one or both eyes
- Sudden trouble walking, dizziness, loss of balance or coordination
- Sudden severe headache without known cause
- Loss of consciousness
- Time is of the essence as prompt administration of a clot dissolving medication can save the person’s life and/or function
Basic life support

- Suggestion that club instructors have CPR training.
- All members have a medical card on file that can be presented to the paramedics should their assistance be necessary.
- Key things to include are medications, allergies and significant medical conditions.
- Privacy can be kept.
Club First Aid Kit

- Bandages and Dressings
- Thermometer
- Instant Cold Packs
- Irrigating Syringe
- Saline
- Antiseptic solution
- Sealed medical record cards
- Latex gloves
- Flashlight
- Mouthpiece for CPR
- Sharp scissors
- Safety pins
- ACE wraps
- Blanket
- Emergency phone numbers