

The Detroit Regional Yacht-racing  
Association

proudly presents

“First Aid Afloat”

with

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Part 2

## Part 2

Stephen Liroff, M.D.

Drowning

Hypothermia

# Drowning



# Drowning

- Tobacco Smoke Enema Kit
- (1750s ↔ 1810s).
- - The tobacco enema was used to infuse tobacco smoke into a patient's rectum for various medical purposes, but primarily the resuscitation of drowning victims.
- A rectal tube inserted into the anus was connected to a fumigator and bellows that forced the smoke into the rectum. The warmth of the smoke was thought to promote respiration.
- Doubts about the credibility of tobacco enemas led to the popular phrase "Blowing Smoke Up Your Ass."
- As you are most likely aware, this odd tool is still heavily used by all levels of government today.

# Drowning

- Definitions

- 1) Drowning: asphyxia: lack of oxygen and the resultant disturbance of body processes
- 2) Near Drowning
- Drowning that is survived...for the moment
- Must observe for delayed respiratory problems

Previously differentiated between salt water and fresh water drowning:  
concept didn't hold water: really little difference

Fluid in which one drowns makes a difference  
depending upon fluid involved and bacteria to which one is exposed

# Drowning

- Bottom line:

People who have had true near drowning experiences must be observed for 6 hours, per emergency medical protocols, to make sure that they don't deteriorate. They need to be in an environment to handle problems immediately: an emergency room

# Drowning

- Often there is associated hypothermia which must be address upon resuscitation:
  - remove wet clothes
  - put on dry clothes
  - can use body heat of someone else to warm the victim
  - apply warm compresses to groins, axillae (arm pits)
  - NO alcohol: increases loss of body heat

# Drowning

- Resuscitation : CPR
- Evacuation:
  - Lung infections
  - ARDS: acute respiratory distress syndrome



# Hypothermia

- Rapid onset
- About 10 minutes in cold water before this sets in
- Can kill in an hour, but in water you'll drown way before that: PFD's are essential to give you the best chance at survival

# Hypothermia

- Incapacitation in Cold Water
- Difficulty swimming
- Loss of functional ability
- Increased viscosity of cold water
- Loss of manual dexterity
- Muscle cramping
- Note: Swimming speeds onset of hypothermia

# Hypothermia

## How hypothermia affects most adults

Water Temperature (Fahrenheit)	Exhaustion or Unconsciousness	Expected Time of Survival
32.5 degrees	Under 15 minutes	Under 15 to 45 minutes
32.5 to 40 degrees	15 to 30 minutes	30 to 90 minutes
40 to 50 degrees	30 to 60 minutes	1 to 3 hours
50 to 60 degrees	1 to 2 hours	1 to 6 hours
60 to 70 degrees	2 to 7 hours	2 to 4 hours
70 to 80 degrees	2 to 12 hours	3 hours to indefinite
Over 80 degrees	Indefinite	Indefinite

# Hypothermia

Get Out of the Water !!

No matter what the weather conditions, you're almost always better off out of the water

Water is a great conductor of heat...therefore you cool off faster

# Hypothermia

- Treatment:
  - slow rewarming
  - take off wet clothes
  - NO alcohol
  - Consider evacuation
- Excellent on line video: “Cold Water Bootcamp”

# Hypothermia

## Sudden Cold water Immersion

- Cold-Shock Response .....lasts several minutes
- Gasp reflex ..... If you gasp underwater, you will immediately drown (and head for the bottom): keep head up
- Hyperventilation ....rapid breathing (uncontrolled)/fainting
- Difficulty holding your breath
- Tachycardia (rapid heart rate)...increased cardiac (heart) work load
- Hypertension (elevated blood pressure)
- Mental difficulties: inability to think clearly/make decisions/follow a plan of action/anxiety/panic/disorientation

# Hypothermia

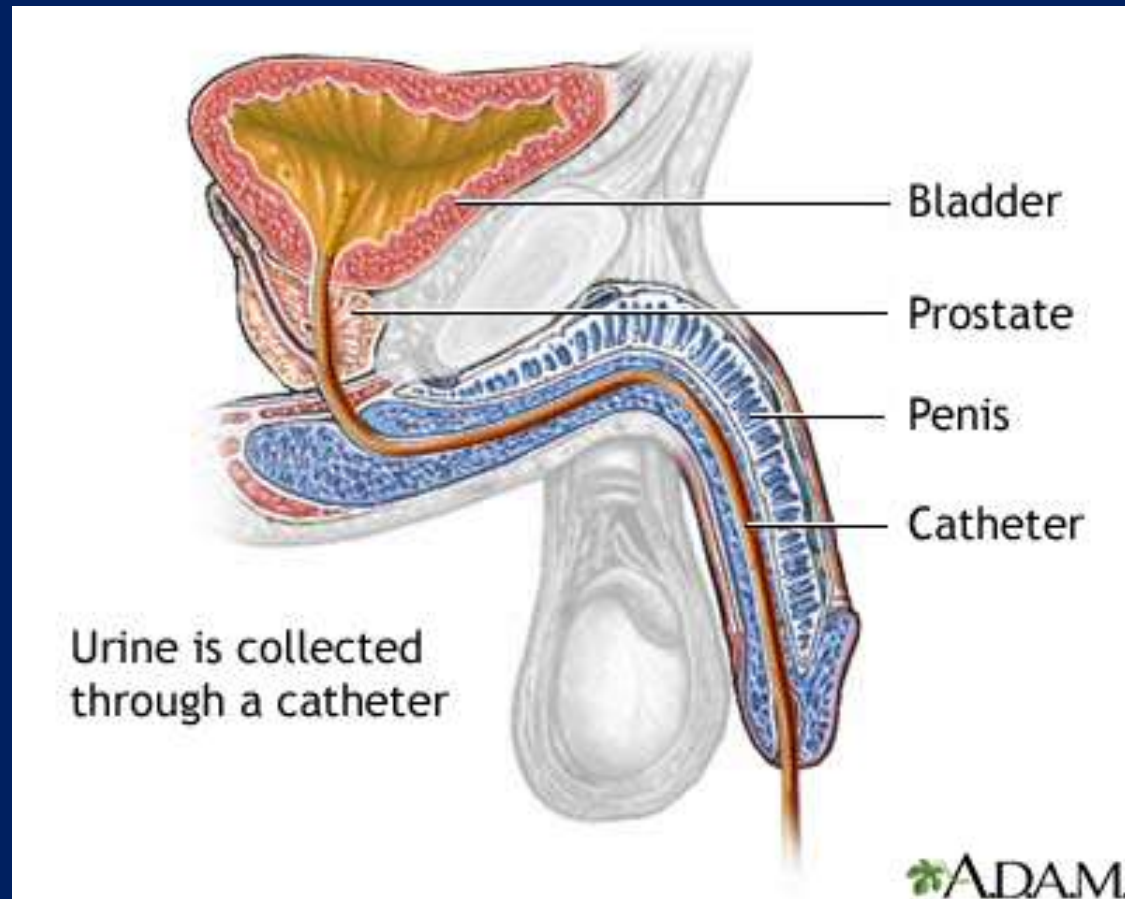
- Cold-Shock Response Shock Response
- Occurs immediately upon entry
- Lasts up to 2 minutes
- Caused by stimulation of truncal skin
  - nerve endings
- The colder the water, the stronger the response
- response

# Hyperthermia

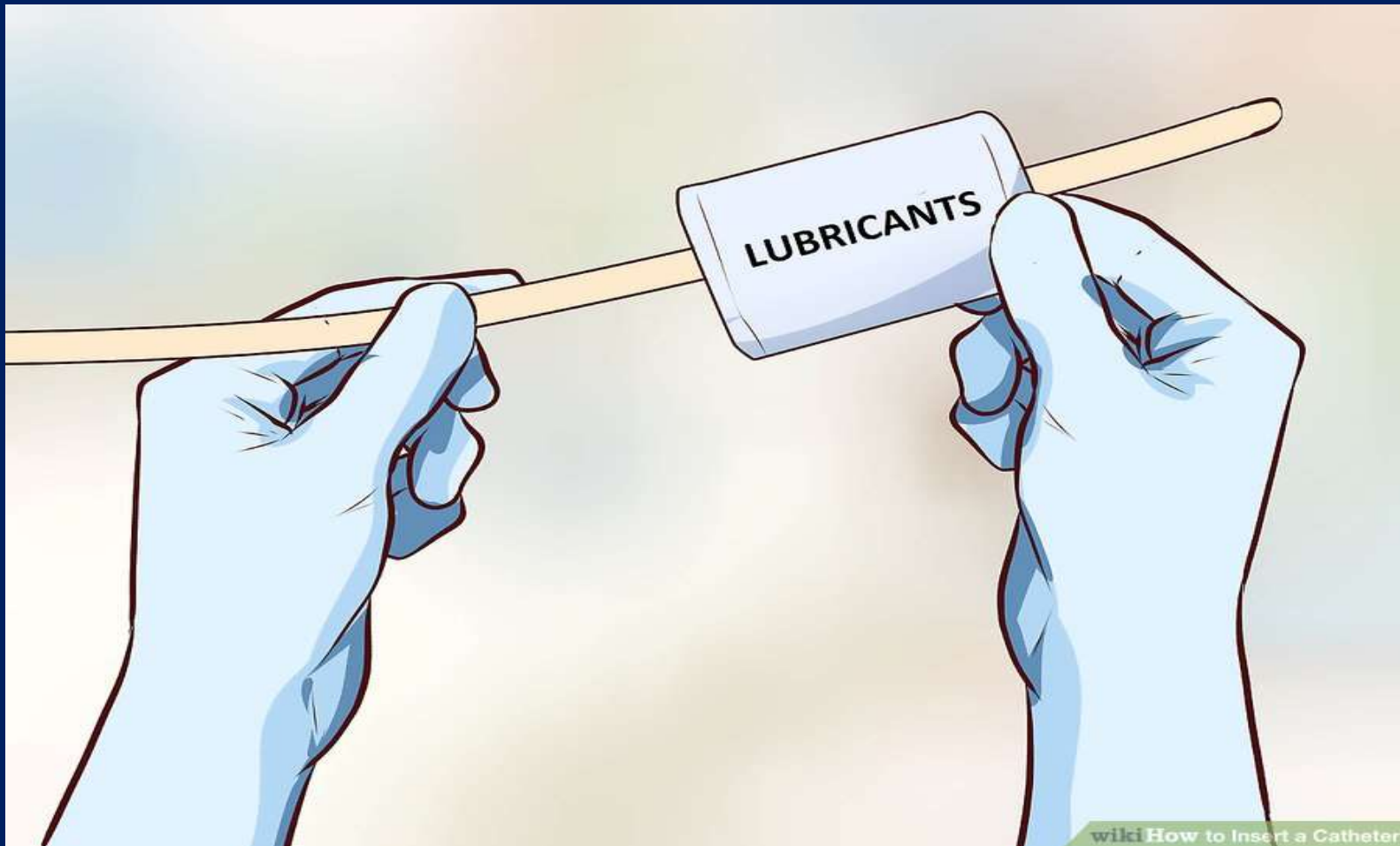
- Symptoms:
  - feeling faint
  - not sweating
  - dry mouth
  - Cramping
- Treatment:
  - Important to drink plenty of cool fluids with electrolytes (1/2 strength Gatorade...because of sugar content) (if not alert, do not give oral fluids)
  - Cool off: remove clothing
  - Ice packs to neck/groins
  - Lie down
- If individual is not responding, temperature of 105 degrees Fahrenheit, Evacuate



# Male Catheterization



# Catheterization



# Male Catheterization

