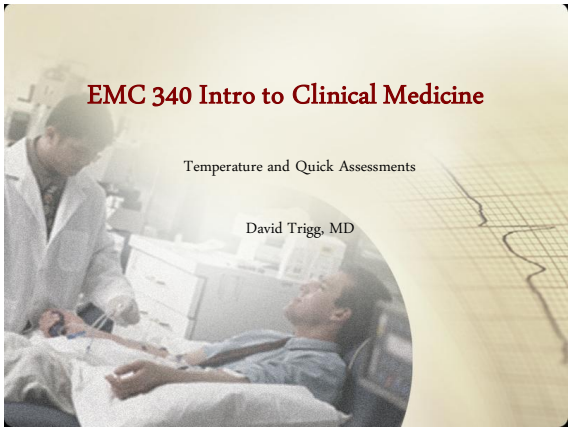
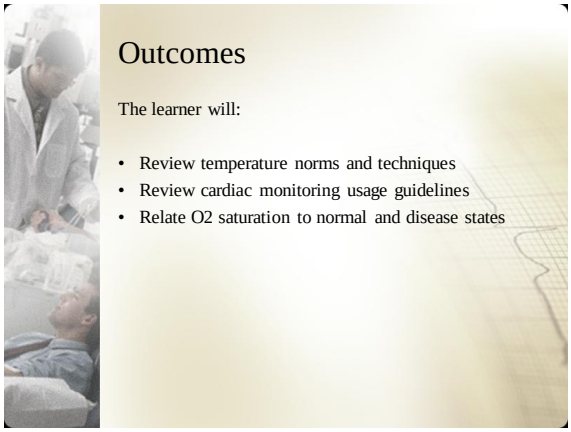
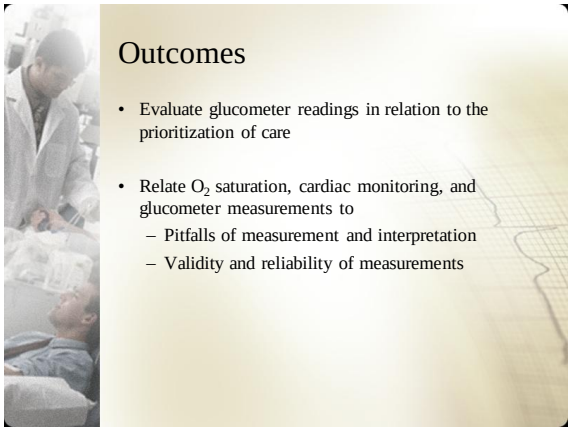

EMC 340 Intro to Clinical Medicine
Temperature and Quick Assessments
David Trigg, MD


Outcomes
The learner will:
• Review temperature norms and techniques
• Review cardiac monitoring usage guidelines
• Relate O2 saturation to normal and disease states


Outcomes
• Evaluate glucometer readings in relation to the prioritization of care
• Relate O_2 saturation, cardiac monitoring, and glucometer measurements to
– Pitfalls of measurement and interpretation
– Validity and reliability of measurements

Temperature

- Norms (approximately)
  - Oral : 37 ^{0} C (98.6 ^{o} F)
  - Rectal : 37.5 ^{0} C (99.6 ^{o} F)
  - Axillary : 36.5 ^{0} C (97.6 ^{o} F)
  - Tympanic : 37.5 ^{0} C (99.6 ^{o} F)

Temperature

- Rule out potentially life-threatening disorders
  - Heatstroke
    - Hyperpyrexia (> 41^{0} or 106^{0}) [rectal]
    - Fever causes : infection,…
  - Hypothermia
    - Hypothermia (< 35^{0} or 95^{0}) [rectal]

Odors

- Ketones (fruity) → ketoacidosis
- Bitter-almond → cyanide
- Alcohol

Pulse Oximetry

- Measures capillary oxygenation
  - Actually measures saturated/desaturated Hb-O2
- Normal: ≥ 95 %
- If < 95 % , suspect
  - Hypoxia
  - Shock

Pulse Oximetry

- False negatives
  - Carbon monoxide: Hb appears saturated + normal
- False positives
  - O_2 sat. < 95 %
    - In hypothermia
    - In peripheral blood vessel disease (Raynaud's)

Capillary Refill

- Normal = ≤ 1.5 sec
- Estimates peripheral circulation
- Same caveats as pulse oximetry

Cardiac Monitor

- Measures electrical (not mechanical) activity of heart
- Technique
  - Limb leads or views
    - Right Arm
    - Left Arm
    - Right Leg (trunk)
    - Left Leg
- Clinical use
  - Quick HR
  - Can identify life threatening arrhythmias

Blood Glucose Determination

- Technique
  - Capillary blood sugar from drop of blood
    - Blood obtained
      - at time of IV stick
      - lancet needle stick
  - Time:
    - ≤ 1 minute
- Indications
  - All patients with altered level of consciousness

Glucometer Variations

- Not calibrated daily
- Digital reading read upside down
  - 28 read as 82

Summary

We have discussed

- Temperature definitions, norms, and techniques
- The use of quick measurements
- Relating measurements to:
  - Pitfalls of measurement and interpretation
  - Problems of reliability and validity