PALS Study Guide 2011

The PALS Provider exam is 33-mutiple choice questions. Passing score is 84%. Student may miss 5 questions. For students taking PALS for the first time or renewing students with a current card, exam remediation is permitted should student miss more than 5 questions on the exam. Viewing the PALS book ahead of time with the online resources is very helpful. The American Heart Association link is www.heart.org/eccstudent and has an PALS Precourse Self-Assessment, along with other helpful tools. The code for the online resources is on the PALS Provider Manual page ii. Basic Dysrhythmias knowledge is required in relation to asystole, ventricular fibrillation, tachycardias in general and bradycardias in general. Students do not need to know the ins and outs of each and every one. For Tachycardias student need to differentiate wide complex (ventricular tachycardia) and narrow complex (supraventricular tachycardia or SVT).

The PALS Provider course is a series of video segments followed by skills stations. The course material provided will prepare you for the written exam.

You will need to know:

- **CPR/AED: Foundation of PALS**

- **Arrhythmias (identify):**
  - Sinus Rhythm (SR)
  - Sinus Bradycardia (SB)
  - Sinus Tachycardia (ST)
  - Supraventricular Tachycardia (SVT)
  - Ventricular Tachycardia (VT)
  - Ventricular Fibrillation (VF)
  - Pulseless Electrical Activity (PEA)
  - Asystole

- **Normal Respiratory Rate:**

Age	Rate
Infant	30- 60
Toddler	24- 40
Preschooler	22- 34
School-age	18- 30

- **Normal Heart Rate**

Age	Sleeping	-	Awake
<3 months	80	-	205
3 months - 2 years	75	-	190
2–10 years	60	-	140
10 + years	50	-	100

- **Hypotension by Systolic Blood Pressure (SBP)**

Age	SBP
< 1 month	< 60
1 month – 1 year	< 70
1 – 10 years	< 70 + (2 x age in years)
10+ years	< 90

- **Hypotension + signs of poor perfusion = decompensated shock**

- **Differential Diagnosis**
  "H's and T's", "Seek & Treat Possible Causes", "Reversible Causes"

6 H's

Hypoxia
Hypovolemia
Hypothermia
Hypoglycemia
Hypo/hyper kalemia
Hydrogen-ion (acidosis)

5 T's

Tamponade
Tension pneumothorax
Toxins – poisons, drugs
Trauma
Thrombosis – coronary (AMI), – pulmonary (PE)

*** General appearance:

Level of consciousness:	A= awake V= responds to verbal P= responds to pain U= unresponsive	
Overall color:	- good	- bad
Muscle tone:	- good	- "floppy"

*** Assess ABCs:

(Stop and give immediate support when needed, then continue with assessment)

Airway:

Open and hold with head tilt-chin lift

Breathing:

-Present or	-absent		
-Rate:	-normal	-slow	-fast
-Pattern:	-regular	-irregular	-gasping
-Depth:	-normal	-shallow	-deep
-Sound:	-stridor	-grunting	-wheezing
-Exertion:	-nasal flaring	-sternal retractions	-accessory muscle use

Circulation:

-Central pulse:	-present	-absent	
-Rate:	-normal	-slow	-fast
-Rhythm:	-regular	-irregular	
-QRS:	-narrow	-wide	

*** Perfusion:

-Central pulse versus peripheral pulse strength:	-equal	-unequal
-Skin color, pattern and temperature:	-normal	-abnormal
-Capillary refill:	-normal	-abnormal (greater than 2 seconds)
-Liver edge palpated at the costal margin	-normal	-dry
	-below costal margin (fluid overload)	

*** Check:

-Systolic BP (normal or compensated): -acceptable for age -hypotensive

-Urine output: normal= 1– 2cc/kg/hr, (infants and children), 30cc/hr (adolescents)

-adequate -inadequate

*** Classify the physiologic status:

Stable: needs little support; reassess frequently

Unstable: needs immediate support and intervention

Respiratory distress: increased rate, effort and noise of breathing; requires much energy

Respiratory failure: slow or absent rate, weak or no effort and is very quiet

Compensated shock: SBP is acceptable but perfusion is poor: central vs. peripheral pulse strength is unequal peripheral color is poor and skin is cool, capillary refill is prolonged

Decompensated shock: Systolic hypotension with poor or absent pulses, poor color, weak compensatory effort

*** Apply appropriate treatment algorithm:

- Bradycardia with a Pulse
- Tachycardia with Adequate Perfusion
- Tachycardia with Poor Perfusion
- Pulseless Arrest: VF/VT
- Asystole/PEA

*** When sudden deterioration of an intubated patient occurs, immediately check:

Displaced: ET tube is not in trachea or has moved into a bronchus (right mainstem most common)

Obstruction: Consider secretions or kinking of the tube

Pneumothorax: Consider chest trauma, barotrauma or non-compliant lung disease

Equipment: Check oxygen source, BVM and ventilator