Patient Assessments - OPQRST

- **O**nset: When did it first start? Events leading up to it?
- **P**rovokes: What makes it better or worse?
- **Q**uality: What does it feel like?
- **R**adiation: Does it travel to any other part of the body?
- **S**everity: What is the level of severity (1 - 10 scale)?
- **T**ime: Constant, change, intermittent, occurred before?

AMS or ALOC Assessments - AEIOU-TIPS

- **A**lcohol
- **E**pilepsy
- **I**nsulin
- **O**verdose
- **U**nderdose
- **T**rauma
- **I**nfection
- **P**sychosis
- **S**troke

AMS = Altered Mental Status
ALOC = Alerted Level of Consciousness

Hypotension Definition by Age and SBP

Age	Systolic Blood Pressure
Term neonates (0 - 28 days)	<60 mmHg
Infants (1 - 2 months)	<70 mmHg
Children 1 - 10 years (5th BP percentile)	<70 mmHg + (age in years x 2) mmHg
Children >10 years	<90 mmHg

Heart Rate (rate/min)

Age	Awake Rate	Sleeping Rate
Newborn - 3 months	85 - 205	80 - 160
3 months - 2 years	100 - 190	75 - 160
2 - 10 years	60 - 140	60 - 90
>10 years	60 - 100	50 - 90

Respiratory Rate (breaths/min)

Age	Rate
Infant	30 - 60
Toddler	24 - 40
Preschooler	22 - 34
School-age child	18 - 30
Adolescent	12 - 16

APGAR SCORE

A: Appearance · **P:** Pulse · **G:** Grimace · **A:** Activity · **R:** Respiration

	Sign	0	1	2
A:	Color	Blue, pale	Acrocyanosis	Totally pink
P:	Heart Rate	None	Slow (<100)	>100
G:	Reflex, irritability	None	Grimace	Cough, sneeze
A:	Muscle tone	Limp	Some flexion	Active motion
R:	Respiration	None	Slow/irregular	Good, crying

Check APGAR scores at 1 and 5 mins, 10 points max. The infant may require additional assessment if scores are <7 or APGARs decreased at 5 mins.

SIRS

Systemic **I**nflammatory **R**esponse **S**yndrome
A whole-body inflammatory state and dysfunction

Two or more of the following:

Temperature	>100.4°F or <96.8°F (>38°C or <36°C)
Respiratory Rate	>20 breaths per minute **OR** P_aCO_2 <32 mmHg
Heart Rate	>90 beats per minute
WBC	>12,000 or <4,000 **OR Immature Bands** >10%

- If there's a likely or confirmed infection responsible for the above, then the patient has **SEPSIS.**
- If there are signs/symptoms of any organ dysfunction, then the patient has **SEVERE SEPSIS.**

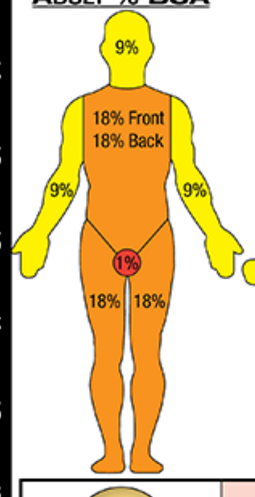
Weight

lb	kg
300	136.4
275	125.0
250	113.6
225	102.3
210	95.5
200	90.9
190	86.4
180	81.8
170	**77.3**
160	72.7
150	68.2
140	63.6
130	59.1
120	54.5
110	50.0
100	45.5

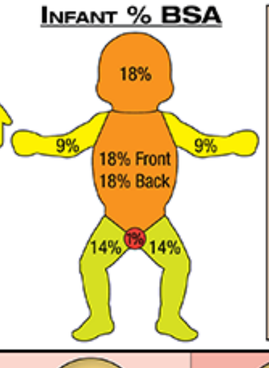
Height

cm	in	ft/in
142	56	4'8"
145	57	4'9"
147	58	4'10"
150	59	4'11"
152	60	5'0"
155	61	5'1"
157	62	5'2"
160	63	5'3"
163	64	5'4"
165	65	5'5"
168	66	5'6"
170	**67**	**5'7"**
173	68	5'8"
175	69	5'9"
178	70	5'10"
180	71	5'11"
183	72	6'0"
185	73	6'1"

Adult % BSA



Infant % BSA



Temperature Conversions

37.0 °C = 98.6 °F	38.9 °C = 102.0 °F	°F = (°C x 9/5) + 32
37.8 °C = 100.0 °F	39.0 °C = 102.2 °F	°C = (°F - 32) x 5/9
38.0 °C = 100.4 °F	39.4 °C = 103.0 °F	Febrile Temp:
38.3 °C = 101.0 °F	40.0 °C = 104.0 °F	>38 °C or 100.4 °F

Rule of Nines

(adults and infants of one year or less)
- Body surface area (BSA)
- % estimated burn area
- 2nd and 3rd degree burns
- Alternative method:
  Patient's palm = 1% BSA

Children 1 yr or older

For each year above one, add 0.5% to each leg and subtract 1% for the head. This formula should be used until the adult rule of nines values are reached. For example, a 5-year old child would be +2% for each leg and -4% for the head.

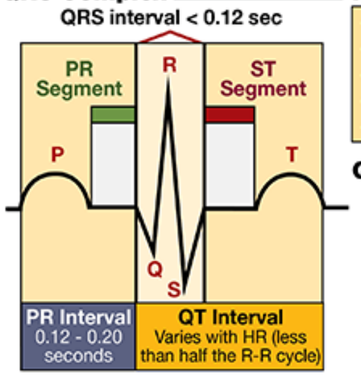
1	2	3	4	5
No Hurt	Hurts A Little Bit	Hurts Even More	Hurts A Whole Lot	Hurts Worst

Pain Scale - *Recommended for ages 3 years and older*

EMT

QRS Complex

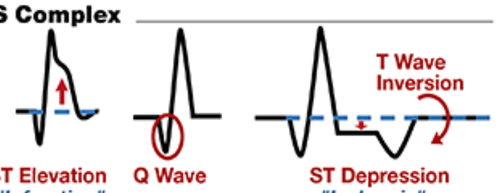
QRS interval < 0.12 sec



Normal Values

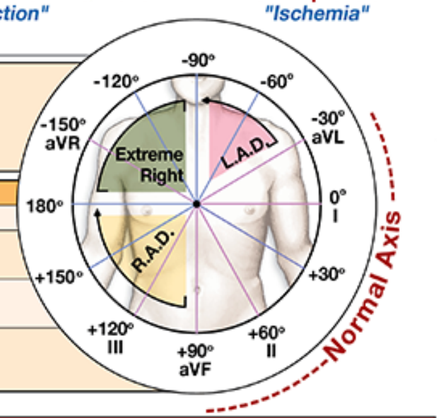
- **P wave:** <0.11 secs
- **PR interval:** 0.12 – 0.20 secs (<1 large box)
- **QRS interval:** <0.12 secs (<3 small boxes)
- **QT:** varies with HR, < ½ of the R-R interval
- **QTC interval:** 0.33 – 0.47 secs

QRS Complex



QRS Axis

Lateral Leads: I, aVL, V5, V6
Septal leads: V1–V2
Anterior leads: V2–V4
Inferior leads: II, III, aVF



Axis	Lead I	Lead aVF
Normal axis	Positive	Positive
Left axis deviation	Positive	Negative
Right axis deviation	Negative	Positive
Extreme right axis deviation	Negative	Negative

12-Lead EKG MI Pattern Interpretations

Limb Leads		Precordial Leads	
I *Lateral	**aVR**	**V1** *Septal	**V4** Anterior
II *Inferior	**aVL** Lateral	**V2** *Anteroseptal	**V5** *Lateral
III *Inferior	**aVF** *Inferior	**V3** Anterior	**V6** *Lateral

*Reciprocal changes are seen in acute MI

AV Blocks

First-Degree

Prolonged PR interval >0.2 seconds

Type I Second-Degree - *Wenckebach*

Progressive increase in PR interval until impulse is not conducted and dropped QRS

Type II Second-Degree - *Mobitz II*

Intermittent dropped QRS

Third-Degree - *Complete block*

No P waves produce a QRS response

Glasgow Coma Score

A 15-point scale to predict mortality after traumatic head injury

Score	Eye Opening	Best Motor	Best Verbal
1	None	No response	No response
2	To pain	Extension	Incomprehensible
3	To verbal	Flexion	Inappropriate
4	Spontaneous	Flexion withdrawal	Disoriented
5		Localized to pain	Oriented
6		Obeys commands	

Coma score interpretation: ≥13, mild brain injury; 9–12, moderate brain injury; ≤8, severe brain injury

Pupil Size