Chapter 11: Physical Exam Techniques

Introduction
- Although patient assessment formally starts with the ________________________, the physical examination actually begins when you first set eyes on your patient.
- The purpose of the physical exam is to investigate areas that you suspect are involved in your patient’s _______________________ problem.

Examination Techniques
- Inspection
- ________________________
- ________________________
- Percussion
  These 4 techniques are the foundation of the physical exam.

Measurement of Vital Signs
- ________________________
- Respiration
- Blood pressure
- Body ________________________

Measure vital signs ________________________ in the physical examination and, in the emergency situation, repeat them often and look for ________________________.

Pulse Rate
- The number of pulses felt in one minute
- Should be taken for at least 30 seconds and multiplied X 2
  - ________________________: Heart rate < 60bpm on adults
  - ________________________: Heart rate > 100bpm on adults

Pulse Rhythm
- The pattern and ________________________ of intervals between beats
  - Regular or ________________________

Pulse Quality
- The strength, which can be weak, ________________________, strong, or bounding

Know Each Pulse Position
Respirations

Respiratory Rate:
- The number of times a patient breathes in one minute
- Should be taken for at least 30 seconds and multiply X 2

Respiratory Effort:
- How hard a patient __________________________ to breathe?

Respiratory Quality
- The __________________________ and pattern of breathing

Breathing Rates
- __________________________:
  - Slow breathing
- __________________________:
  - Rapid breathing

Blood Pressure
- The force of blood against arteries’ walls as the heart contracts and relaxes
- __________________________—force of blood against the arteries when ventricles __________________________
- __________________________—force of blood against arteries when ventricles __________________________

Blood Pressure
- __________________________: Blood pressure higher than normal (i.e. >140/90 mmHg)
- __________________________: Blood pressure lower than normal (based on patient’s normal BP status)

Body Temperature
- The body works hard to maintain a temperature approximately ____________ degrees.
- __________________________: An increase in the body’s core temperature
- __________________________: A decrease in the body’s core temperature

Equipment
- __________________________
  - Sphygmomanometer (BP cuff)
- __________________________: to examine eyes
- __________________________: to examine ears
- Scale
- Other: pen light, reflex hammer, thermometer, etc.

2 Types of Sphygmomanometer

Visualize the interior of the eye with an __________________________.

An __________________________ is used to inspect the ear

Overview of a Comprehensive Examination
24 General Survey
- ____________________________  
- ____________________________ signs  
- Additional assessments  

25 Appearance (1 of 2)
- Level of consciousness  
  - ____________________________ Scale  
  - ____________________________  
- Person, Place, Time and Event  
- Signs of distress  
- Apparent state of ____________________________  
- Vital statistics  
- Sexual development  

26 Appearance (2 of 2)
- Skin ____________________________ and obvious lesions  
- Posture, gait, and ____________________________ activity  
- Dress, grooming, and personal ____________________________  
- ____________________________ of breath or body  
- ____________________________ expression  

27 Vital Signs  
- Pulse  
  - ____________________________  
- Blood pressure  
  - ____________________________  

28 An ultrasonic ____________________________ may be used if you cannot hear blood pressure with a stethoscope  

29 Additional Assessment Tools  
- Pulse ____________________________ : measures oxygen saturation in the hemoglobin  
- Cardiac Monitor: measures the electrical conduction through the myocardium  
- ____________________________ : measures the glucose level in the blood  
- ____________________________ : determines the presence and/or levels of carbon dioxide in exhaled air  

30 Anatomical Regions  

31 The Skin  
- The largest organ in the human body.  
- Makes up _________ % of our total body weight.  
- Consists of 2 layers that lie atop the subcutaneous fat.  
  - ____________________________
The Skin

Skin Characteristics to Assess
- Moisture
- Texture
- Mobility and mobility of lesions

The Hair and Scalp

The Head
Palpate and Examine:
- Scalp
- Sinuses

Eyes
Check for:
- Constriction or Dilation
- Reaction to ____________________________ in size
- Movement together
- Peripheral vision

Ears
Check for:
- Bleeding
- Bruising over ___________________________ Process

Nose
Check For:
- Bleeding
- Drainage

Mouth
Check For:
- Bleeding or Injuries
- ____________________________ Mucosa
- Discoloration or foreign bodies
- Lip condition and color
• Condition of ________________________________

40 □ Examine the _______________________________ mucosa

41 □ Inspect the ________________________________ . Use gloves and gauze.

42 □ Inspect under the tongue

43 □ Have patient say “aaahhh” while you examine the soft palate and

______________________________________________

44 □ The Neck
  Check For:
  • ______________ deviation
  • Jugular vein distension (__________)
  • Carotid Pulse
  • Swelling of ___________________________ nodes
  • Subcutaneous ________________________________

45 □ The Chest & Lungs

46 □ The Chest
  Check For:
  • Injuries/Deformities
  • Equal ______________________________ and relaxation
  • Tactile ______________________________ : vibrations when pt speaks
  • Ascultation and ______________________________ sounds (anterior and posterior)

47 □ Adventitious Breath Sounds (1 of 2)
  • ______________________________ (Rales): light crackling, popping, nonmusical sounds heard usually during inspiration due to fluid in the smaller airways
  • ______________________________ : continuous, high-pitched musical sounds similar to a whistle due to narrowing of the airways
  • ______________________________: continuous sounds with a lower pitch and a snoring quality. Normally in larger airways associated with excessive mucus

48 □ Adventitious Breath Sounds (2 of 2)
  • ______________________________: when the upper airway is partially obstructed; usually by the tongue
  • ______________________________: Harsh, high-pitched sound heard on inspiration (wheeze) associated with laryngeal obstruction and upper respiratory infection
  • ______________________________ Friction Rub: Sounds like dried pieces of leather rubbing together; occurs when the pleura becomes inflamed (pleurisy)

49 □ Cardiovascular System
  Cardiac Cycle
  • ______________________________ : phase when ventricles contract
  • ______________________________ : phase when ventricles relax
Check for:
- Irregular or unusual pulses
  - 3rd heart sound signifies CHF
- JVD

The Abdomen Divided into _________ quadrants

The Abdomen
Check For:
- Tenderness
- Injuries, discolorations, or fever
- ______________________ or firmness
- Presence of bowel sounds
  - Each quadrant should be listened to for at least _________ minute
Palpate each ______________________ separately; beginning with the quadrant farthest away from the point of pain, if present

Abdominal Trouble Indicators
- ______________________ sign: discoloration around the umbilicus suggestive of intra-abdominal hemorrhage.
- ______________________ sign: discoloration over the flanks suggesting intra-abdominal bleeding.
- Ascites (ah-SYE-teez): swelling in the flanks and abdomen due to collection of fluid.
- ______________________ (bor-bo-RIG-my): loud, prolonged, gurgling bowel sounds.

Light Abdominal Palpation
Deep Abdominal Palpation

Genitalia
Check For:
- Injuries, swelling, foreign bodies
- Signs of ______________________ assault
- ______________________
- Presence of blood

The Musculoskeletal System
Consists of _________ bones and associated muscles, tendons, ligaments, and cartilage.

Examination of the Musculoskeletal System
- Observe, inspect, and palpate the joints, structure and movement
Note:
- Pain, swelling
- Deformity, ______________________
- Tissue changes, Range of motion
- ______________________
- Compare ______________________
The Extremities

- A complete examination of the extremities includes wrists and hands, elbows, shoulders, ankles and feet, knees, and hips.
- Check for ____________________________ and flexion of the feet, hands, elbows, knees, fingers and toes

Examining the Shoulder

Check For:
- Injuries
- Deformity
- Flexion/Extension
  - ____________________________ : Rotation away from the body
  - ____________________________ : Rotation toward the body

Examining the Ankle and Foot

Palpate the ankle and foot.

Assess ____________________________ and Plantar Flexion.

Assess Inversion and ____________________________ of the foot.

Test flexion and extension of the ____________________________

Examining the Knee

Check for:
- Injuries, deformities, ____________________________
- Range of motion/ ____________________________
- Flexion and extension
  - ____________________________ position

Assessing the Hip and Pelvis

Check for:
- Deformities or swelling
  - ____________________________
- Tenderness
  - ____________________________

Assessing the Spine

Caution: NEVER manipulate the spine on ____________________________ patients
Check For:
- Deformity
  - ____________________________
- Paralysis
  - ____________________________

Assessing the Peripheral Vascular System

The Peripheral Vascular System
● The peripheral vascular system delivers ________________________________ blood to the tissues of the extremities.

● Pulses should be taken in all four extremities; especially __________________________ to any injuries.

71 □ Palpate the __________________________ artery.

72 □ Palpate the __________________________ artery.

73 □ Palpate and Compare the __________________________ Arteries.

74 □ Palpate the __________________________ Pulse.

75 □ Palpate the __________________________ pedis pulse.

76 □ Palpate the Posterior __________________________ Pulse.

77 □ Palpate for __________________________ .

78 □ Assessing for Edema

79 □ Pitting Edema Scale
● 1+ _________” or less
● 2+ ¼” to _________”
● 3+ _________” to 1”
● 4+ _________” or more

80 □ Physical Examination of Infants and Children
● Children are not just small __________________________ and you cannot treat them as if they are.
● Different age groups have specific __________________________ and characteristics.
● Position yourself at the child’s level, use a __________________________ voice, and smile a lot.

81 □ Have __________________________ hold young children while you examine them.

82 □ Pediatric Anatomical Differences
● Larger __________________________
● Smaller, more flexible airways
● __________________________ : soft spots on head
● Shorter and smaller necks
● Faster respiratory rate

83 □ Pediatric Anatomy and Physiology

84 □ Infants and Children Anatomy & the Physical Exam
● __________________________ Appearance
● Head & Neck
● Chest & __________________________
- Cardiovascular
- Abdomen
- Musculoskeletal
- __________________________ System

85 Fontanelle of the Infant’s Skull

86 Normal Vital Signs for Various Age Groups

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Resp</th>
<th>Pulse</th>
<th>Syst. BP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Newborn</td>
<td>30-60</td>
<td>100-180</td>
<td>60-90</td>
</tr>
<tr>
<td>Infant</td>
<td>30-60</td>
<td>100-160</td>
<td>87-105</td>
</tr>
<tr>
<td>Toddler</td>
<td>24-40</td>
<td>80-110</td>
<td>95-105</td>
</tr>
<tr>
<td>Preschooler</td>
<td>22-34</td>
<td>70-110</td>
<td>95-110</td>
</tr>
<tr>
<td>School Age</td>
<td>18-30</td>
<td>65-110</td>
<td>97-112</td>
</tr>
<tr>
<td>Adolescent</td>
<td>12-16</td>
<td>60-90</td>
<td>112-128</td>
</tr>
</tbody>
</table>

87 Place the stethoscope along the young patient’s mid-_________________________ line.

88 The most important characteristic of a physical assessment is __________________________.

89 Recording Examination Findings

- After you perform the history and physical examination, it is time to ____________________________ the findings on your patient’s chart or permanent medical record.
- The patient record is only as good as the ____________________________, depth, and detail you provide.
Know each pulse position.

Peripheral Pulse Sites

Temporal – lateral to eye orbit
Carotid – medial to and below angle of jaw
Brachial – just medial to biceps tendon
Radial – thumb side of wrist
Ulnar – little finger side of wrist
Femoral – just below inguinal ligament
Popliteal – just behind knee
Dorsalis pedis – top of foot
Posterior tibial – behind medial malleolus