

Adult History & Physical Examination

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This Presentation is Approved for
1 CRCE Credit Hour

Learning Objectives

- Elicit & explain the significance of findings from a patient history & physical examination

Medical History

History Components

- Demographics
 - ❖ Age
 - ❖ Place of birth
 - ❖ Race
 - ❖ Nationality
 - ❖ Marital status
 - ❖ Occupation

History Components

- Date & source of history
- Brief description of patient's condition
- Chief complaint (CC)

FYI see links below for medical history taking guide

History Components

- History of present illness (HPI) for each sign, symptom
 - ❖ P: Palliative, provocative
 - ❖ Q: Quantity, quality
 - ❖ R: Region, radiation
 - ❖ S: Severity - degree of
 - ❖ T: Timing - when? how long?

History Components

- > Past medical history
 - ❖ Childhood diseases
 - ❖ Immunizations
 - ❖ Hospitalizations, surgeries
 - ❖ Allergies
 - ❖ Medications

History Components

- > Past medical history
 - ❖ Birth history, childhood development
 - ❖ Diet
 - ❖ Sleep

History Components

- > Past medical history
 - ❖ Birth history, childhood development
 - ❖ Diet
 - ❖ Sleep
 - ❖ Habits (honesty?)
 - Tobacco: ever smoke? pk/yr, etc.
 - Alcohol consumption
 - Recreational drugs, routes for administration

History Components

- > Family history
 - ❖ Immediate family
 - Relationships
 - Morbidity (diseases)
 - Mortality (age, cause)
 - ❖ Parental occupations: things brought home
 - ❖ Marital history

History Components

- > Family history
 - ❖ Familial disease
 - Asthma
 - Emphysema
 - Diabetes
 - Alzheimer's
 - Cardiovascular disease

History Components

- > Family history
 - ❖ Familial disease
 - Hematological disease, e.g. hemoglobin abnormalities
 - Renal disease
 - Creutzfeldt-Jacob disease (Prion)
 - Marfan's syndrome - Abraham Lincoln?

History Components

- > Social & environmental history
 - ❖ Education
 - ❖ Military experience
 - ❖ Occupational history
 - ❖ Travel
 - ❖ Hobbies

History Components

- > Social & environmental history
 - ❖ Education
 - ❖ Military experience
 - Combat status?
 - Foreign assignments?
 - Environmental exposure?

History Components

- > Social & environmental history
 - ❖ Occupational history: risks
 - Lung cancer: dust, fumes, smoke
 - Asbestosis, mesothelioma
 - Silicosis (construction)

FYI see links below to NIOSH website for comprehensive information

History Components

- > Social & environmental history
 - ❖ Occupational history: risks
 - Byssinosis (textile workers)
 - Hypersensitivity pneumonitis (agriculture & related)
 - Bronchiolitis obliterans organizing pneumonia (food flavorings)

FYI see links below for food flavoring & lung disease

History Components

- > Social & environmental history
 - ❖ Healthcare workers
 - Aerosols: asthma, infections
 - Glutaraldehyde: asthma, rash, hives
 - Contact infections
 - Hypersensitivities: latex
 - Teratogenics: radiation, infections

FYI see links below for occupational risks for healthcare

History Components

- > Social & environmental history
 - ❖ Travel: infections, allergens
 - ❖ Hobbies
 - Bird breeders: psittacosis, hypersensitivity pneumonitis
 - Hot tub users: hypersensitivity pneumonitis
 - Gardening: allergies, hypersensitivities
 - Woodworking: dust, adhesives

History Components

- > Review of systems: checklist about symptoms, by organ systems
 - ❖ General/Constitutional
 - ❖ Skin/Breast
 - ❖ Eyes/Ears/Nose/Mouth/Throat
 - ❖ Cardiovascular
 - ❖ Respiratory

History Components

- > Review of systems: checklist about symptoms, by organ systems
 - ❖ Gastrointestinal
 - ❖ Genitourinary
 - ❖ Musculoskeletal
 - ❖ Neurologic/Psychiatric
 - ❖ Allergic/Immunologic/Lymphatic/Endocrine

Cardiopulmonary Symptoms

- > Cough
 - ❖ Chronic?
 - ❖ Productive?
 - ❖ Angiotensin converting enzyme (ACE) inhibitors?: antihypertensive agents

Cardiopulmonary Symptoms

- > Dyspnea
 - ❖ Grade I: exercise only
 - ❖ Grade II: moderate activity
 - ❖ Grade III: short walk
 - ❖ Grade IV: at rest

See links below to view Borg dyspnea score

Cardiopulmonary Symptoms

- > Dyspnea
 - ❖ Positional
 - Orthopnea: number of pillows
 - Platypnea/orthodeoxia: anatomic shunt, e.g. patent ductus arteriosus

Cardiopulmonary Symptoms

- > Sputum production
 - ❖ When productive?
 - ❖ Blood (hemoptysis)
 - ❖ Color
 - ❖ Amount
 - ❖ Consistency
 - ❖ Odor

Cardiopulmonary Symptoms

- > Chest pain
 - ❖ Onset
 - ❖ Nature
 - ❖ Associated phase of breathing
- > Hoarseness
- > Noisy breathing
- > Snoring

Cardiopulmonary Symptoms

- > Pedaledema (swollen ankles)
- > Joint pain, e.g. rheumatoid arthritis
- > Fever, chills: infections
- > Night sweats
 - ❖ Diseases, e.g. infections
 - ❖ Medications
 - ❖ Alcohol

Cardiopulmonary Symptoms

- > Sensorium
 - ❖ Syncope (faintness)
 - ❖ Headache
 - ❖ Altered mental status
 - ❖ Personality change: sometimes electrolyte, blood gas abnormalities

Physical Examination

Initial Impression

- > Age
- > Ethnicity
- > Gender
- > Body type
- > Height, weight
- > Dominant hand
- > General appearance - level of comfort

Level of Consciousness

- > Glasgow Coma Scale (GCS)
 - ❖ Eye opening response
 - ❖ Verbal response
 - ❖ Motor response

Level of Consciousness

- > Glasgow Coma Scale (GCS)
 - ❖ Eye opening response (1 - 4)
 - Spontaneous
 - Verbal
 - Pain
 - None

Level of Consciousness

- > Glasgow Coma Scale (GCS)
 - ❖ Verbal response (1 - 5)
 - Oriented: time, place, person
 - Confused
 - Inappropriate words
 - Incoherent
 - None

Level of Consciousness

- > Glasgow Coma Scale (GCS)
 - ❖ Motor response (1 - 6)
 - Response to commands
 - Localizes pain
 - Withdraws from pain
 - Flexion to pain
 - Extension to pain
 - None

Level of Consciousness

- > Glasgow Coma Scores
 - ❖ 13 or higher → mild brain injury
 - ❖ 9 to 12 → moderate injury
 - ❖ 8 or less → severe brain injury

FYI see links below for more information on GCS

Vital Signs

- > Pulse
 - ❖ Rate
 - ❖ Intensity
 - ❖ Regularity
 - ❖ Pulsus paradoxus: less intense during inspiration

Vital Signs

- > Pulsus paradoxus: causes
 - ❖ Cardiac origins, e.g. tamponade
 - ❖ Pulmonary, e.g. asthma, tension pneumothorax
 - ❖ Non-cardiopulmonary, e.g. diaphragmatic hernia

FYI see links below for more information on pulsus paradoxus

Vital Signs

- Respirations
 - ❖ Rate
 - ❖ Regularity
- Blood pressure
- SpO₂ (fourth vital sign)

Inspection of Head (HEENT)

- Face
 - ❖ Expression
 - ❖ Markings, e.g. hemangiomas
 - ❖ Nasal flaring
 - ❖ Pursed-lip breathing
 - ❖ Color: cyanosis
 - Hypoxemia
 - Methemoglobinemia

Inspection of Head (HEENT)

- Eyes: pupils
 - ❖ Size
 - ❖ Equality
 - ❖ Shape
 - ❖ Reactivity to light
 - ❖ Accommodation to distance

Inspection of Head (HEENT)

- Eyes
 - ❖ Pupils
 - ❖ Equal
 - ❖ Round
 - ❖ Reactive to
 - ❖ Light
 - ❖ Accommodative

Inspection of Head (HEENT)

- Pupils affected by
 - ❖ Neurologic disease
 - ❖ Trauma, death
 - ❖ Medications
 - Anticholinergics: dilate pupils
 - Narcotics: constrict pupils
 - ❖ Kindergarten teachers have tiny pupils

Neck: Inspection & Palpation

- Position of trachea: midline?
 - ❖ Shifts away from pneumothorax, tumors
 - ❖ Shifts toward atelectasis

Neck: Inspection & Palpation

- > Jugular venous distention (JVD) → increased right ventricular preload
 - ❖ Veins normally flat while erect
 - ❖ JVD: jugular veins visible while sitting

Up next: Video on estimating jugular venous pressure

Neck: Inspection & Palpation

- > Accessory muscles
 - ❖ Usage
 - ❖ Hypertrophy, esp. sternocleidomastoid

Abdomen

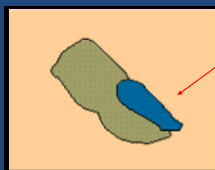
- > Inspection
 - ❖ Distention, ascites
 - ❖ Coordination with chest is normal
 - ❖ Abdominal paradox →
 - Diaphragmatic fatigue
 - Diaphragmatic paralysis

Abdomen

- > Palpation & percussion
 - ❖ Detect hepatomegaly
 - ❖ Measure excursion of diaphragm
- > Auscultation
 - ❖ Bowel sounds
 - ❖ Confirm location of endotracheal tube

Extremities

- > Color of nailbeds: cyanosis
 - ❖ Requires 5 vol % desaturated Hb
 - ❖ Absent with anemia

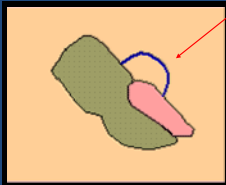


Time for a Humor Break



Extremities

- > Digital clubbing: chronic hypoxia



Hyponychial Angle

The diagram shows a cross-section of a finger with a green nail bed and a pink nail plate. A blue arc indicates the angle between the nail plate and the skin at the base of the nail, labeled as the 'Hyponychial Angle'. The angle is shown to be increased, which is characteristic of digital clubbing.

Extremities

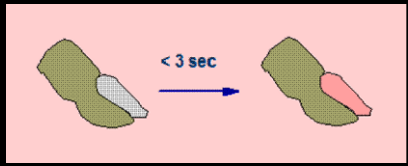
- > Digital clubbing: chronic hypoxemia



A photograph showing the hands of a person with digital clubbing. The fingers are noticeably enlarged and rounded at the tips, which is a clinical sign of chronic hypoxemia.

Extremities

- > Capillary refill: peripheral perfusion



< 3 sec

The diagram illustrates the capillary refill test. It shows a finger being pressed against a surface, turning white. An arrow points to the finger after release, which has turned pink again. The time taken for this to happen is labeled as '< 3 sec', indicating normal peripheral perfusion.

Extremities

- > Skin temperature, moisture
- > Poor skin turgor: dehydration

See links below for illustration of skin turgor

Chest Physical Exam

- > Inspection
- > Palpation
- > Percussion
- > Auscultation

Up next: Video of chest physical examination

Chest Inspection

- > Configuration
 - ❖ Barrel chest
 - ❖ Pectus carinatum: pigeon chest
 - ❖ Pectus excavatum: concave
 - ❖ Scoliosis, kyphoscoliosis

See links below for pectus carinatum, pectus excavatum, & kyphoscoliosis

Chest Inspection

- > Ventilatory patterns
 - ❖ Normal
 - ❖ Restriction: rapid & shallow
 - ❖ Obstruction: prolonged expiration

Chest Inspection

- > Ventilatory patterns
 - ❖ Cheyne-Stokes: CHF, neuro dx
 - ❖ Biot's: unpredictable irregularity → medullary damage
 - ❖ Kussmaul: diabetic ketoacidosis
 - ❖ Apneustic: neurologic dx

Chest Palpation

- > Expansion: symmetry
- > Fremitus: vocal vibrations
 - ❖ Increased by atelectasis
 - ❖ Decreased by emphysema, pleural effusion

Chest Percussion

Up next: Video of chest percussion

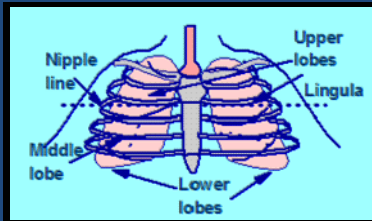
Chest Percussion

- > Listen for resonance
 - ❖ Resonance: normal air in chest
 - ❖ Hyperresonance → increased air
 - ❖ Tympany → air under pressure
 - ❖ Dullness → solid tissue

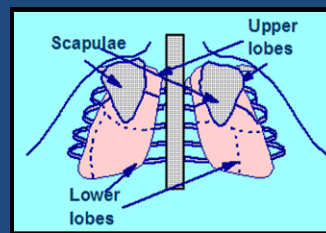
Chest Auscultation

- > Room must be quiet
- > Maintain patient privacy
- > Diaphragm firmly against skin, NOT over clothes
- > Auscultate, compare sides
- > Auscultate entire chest, especially posterior segments

Anterior Chest



Posterior Chest



Chest Auscultation

- > Normal breath sounds
 - ❖ Tracheal: over trachea
 - ❖ Bronchial & bronchovesicular: large airways
 - ❖ Vesicular: over parenchyma

See links below to hear vesicular breath sounds

Chest Auscultation

- > Abnormal (adventitious) sounds
 - ❖ Rales: obsolete term; should not be used
 - ❖ Crackles: discontinuous
 - Secretions in airways (wet)
 - Alveolar opening (dry)
 - Frequently in posterior segments

Chest Auscultation

- > Abnormal (adventitious) sounds
 - ❖ Crackles, consistent with
 - Pneumonia
 - Atelectasis
 - Pulmonary fibrosis
 - Pulmonary edema

See links below to hear fine & coarse crackles

Chest Auscultation

- > Abnormal (adventitious) sounds
 - ❖ Rhonchi
 - Continuous, musical
 - Caused by airway vibration
 - Fine (wheezes) or coarse

See links below to hear wheezes

Chest Auscultation

- Abnormal (adventitious) sounds
 - ❖ Rhonchi, consistent with
 - Secretions in airway
 - Bronchoconstriction
 - Airway edema
 - Airway neoplasms
 - Foreign body aspiration

See links below to hear rhonchi

Chest Auscultation

- Abnormal (adventitious) sounds
 - ❖ Stridor
 - Inspiratory sound
 - Upper airway obstruction
 - ❖ Pleural rub
 - Pleurae rubbing together

See links below to hear stridor & friction rub

Chest Auscultation

- Abnormal sounds
 - ❖ Absent sounds
 - ❖ Diminished sounds
 - ❖ Bronchial sounds at abnormal locations
 - Atelectasis
 - Pneumonia

See links below to hear bronchial sound

Reporting Breath Sounds

- Comparison of left & right
- Intensity: locations
- Adventitious sounds
 - ❖ Type, intensity, other descriptors
 - ❖ Location
 - ❖ Post-tussive changes
 - ❖ Post-therapeutic changes

FYI see links below for article on respiratory sounds
(click on 'pdf' to download)

Summary & Review

- Components of history
 - ❖ Demographics
 - ❖ Chief complaint
 - ❖ Past medical hx
 - ❖ Social, occupational hx
 - ❖ Family hx
 - ❖ Review of systems

Summary & Review

- Physical examination
 - ❖ Initial impression
 - ❖ Level of consciousness (LOC)
 - ❖ Vital signs
 - ❖ Head-to-toe inspection, palpation

Summary & Review

- Chest physical examination
 - ❖ Inspection
 - ❖ Palpation
 - ❖ Percussion
 - ❖ Auscultation

References

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