

ASSESSMENT - Cardiopulmonary

Demographic detail -

IPD -

Name

Ward:

Bed No:

Age

Height:

Gender

Weight

Address

BMI

Occupation

Provisional diagnosis

• Handedness

• Marital Status

• Religion

Chief complain - As per the words of the pt.

History -

Present history - History pertaining to present problem.

- Date of onset
- Mode of onset
- Aggravating factor.

Past history -

- Related to the present condition
- Related to the other condition.

Medical History.

Surgical history

Family history.

### Personal history -

- H/O alcohol
- H/O any addiction,

### Smoking history -

- Smoker - Yes/NO
- If Yes -
- Duration -
- No. of cigarettes per day
- If stopped smoking \_\_\_\_\_ Year/bq.
- Reason for quitting smoking.

### Social history -

Mental health status

## ON Observation:-

- ~~Observation~~
- Patient dependent or Independent
- Level of consciousness
- Body Type / Built -
  - Thin
  - Obese
  - Cachexic (Mal-Nourished)
- Cyanosis -
  - Nail colour
  - Central cyanosis -
  - Peripheral cyanosis.
- Paller
- Colour of eye - Sclera.



- Clubbing of digits
- Facial Expiration.
- Breathing pattern.
- Jugular vein engorgement - 4<sup>th</sup> extension
- Bed ~~sore~~ (Bed sore)
- Peripheral Swelling (P.T.)  
M.P.T. (Cardiopulmon)

- back
- Chest ~~shape~~ <sup>deformity</sup> - Eg
    1. Funnel chest - (depress sternum)
    2. Pigeon chest
    3. Flat chest - (rib # case when the pt breath inhaled)
    4. Paradoxical - as upper chest breath
    5. Diaphragmatic breathing.

- I/V line / Nasal tube / catheter.
- Type of ventilation.
- Oxygen therapy - Dr. HINA VAISH (P.T.)
  - Face mask (P.T.)
  - Nasal prong (P.T.)
  - Face mask + subneathing bag
- Muscle wasting
- Sputum.

# ON PALPATION -

- Chest Pain.
- Tenderness - 4 Grades -
  - Grade 1 - Pain while touching
  - Grade 2 - Pt. complains of pain & winces (feels pain)
  - Grade 3 - Wincing + C withdraw the jt.
  - Grade 4 - Pt. will not allow the palpation of jt.

## B. Odema -

### Classification - Pitting odema.

Grade	Depression	Time
Grade 1+ - Slight (deep, moderate)	2mm	rapidly disappear
Grade 2+ - Some w/8 deeper	4mm	disappear 10-15 sec.
Grade 3+ - Deep (extremity swollen)	6mm	may last quarter 1 min
Grade 4+ - Very deep Extremity distorted	8mm	last for 2-5 min

### Classification - NON-Pitting odema -

Grade 1 - mild odema - both feet & Ankle.

Grade 2 - Moderate below knee to - feet & hands & lower arm.



Grade-3- Severe, generalized - Excepted face all full body

Grade 4 - whole body present the edema.

### 3. Chest measurement -

there are 3-levels

⇒ Upper lateral costal - 4<sup>th</sup> costal cartilage  
difference - 2-3 cm inspiration - Expira.

⇒ Lower lateral costal - 7<sup>th</sup> costal cartilage  
difference - 4-5 cm (P<sub>1</sub>) insp to Expira.

⇒ Diaphragmatic level - 9<sup>th</sup> costal cartilage  
difference - 7-8 cm insp to Expira.

### 4. Chest symmetry / trunk symmetry

Chest wall configuration -

- Barrel chest ( )
- Pectus excavatum (depressed lower sternum)
- Pectus carinatum Prominent (upper sternum)

Normal thoracic cage - elliptical

Anterior-posterior to lateral diameters  
= 1:2

Angle of ribs less than 90°

## 5. Tactile fremitus

Spoken words produce vibration of chest wall.

Technique - Palmar surface of one or both ulnar border of hand is used & pt. As therapist told the pt. to repeat 99, 999, or 1, 2, 3, 4, 5, etc.

- On presence of secretion → vibration of lse.
- " " " air → " " lse.

## 6. Tracheal deviation.-

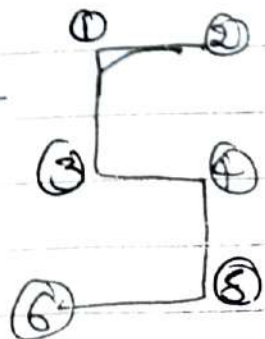
Neck is slightly flex & extend finger & index finger is used for palpate the trachea. For the cheek trachea is midline or deviated & soft tissue on either side.

## ⇒ ON Auscultation

### ① Breath sound -

(a) Normal breath sound - Vesicular  
Bronchial  
Broncho vesicular.

check the pattern -  
for the proper air





- Vesicular - soft, low pitched breezy but faint sound.

longer on inspiration than on expiration (3:1)  
 heard best over most of the chest i.e. peripheral lung field.

- Bronchial - loud, hollow, tubular. high pitched heard equally during inspiration & expiration  $\bar{c}$  a pause in between.

Heard over main stem bronchi (trachea)

- Broncho vesicular - high pitch sound. Equal on ins. & Exp. without a pause  $\bar{c}$  heard best over superior to clavicle supraclavicular suprascapular. parasternal & interscapular region.

## (b) Abnormal breath sound -

(i) Sound transmission changes due to underline pathology ~~absent~~

- Absent - No sound of any of the three type.
- Diminished - Deceased sound

## (ii) Adventitious sound -

• Crackles - Discontinuous low pitch (like rubbing of hair) velcro popping  
 ↓ (Cardiopulmonary) ↓  
 Fine crackles                      Coarse Crackles

- Primarily (mainly) heard during inspiration

- Indication of -

- Secretions moving in airway
- Closed airways & rapidly opening.

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- Rhonchi - low pitch continuous sound

- Heard during Insp. or Expi.

- It is due to obstructive process in larger & more central airways

Wheezes - Continuous high pitch sound,  
(Hissing & whistling type)

- Primarily upper during expiration & it is indication of bronchospasm.

- However, inspiratory wheezes may be present when air ~~at~~ where air ~~at~~ more through secretion.

© Extrapulmonary sound -

Friction rub -

or leathring Dr. HINA VAISH both during Inspi. & Expi. (P.T.)

It occurs due to visceral pleura rubbing against parietal pleura pain is usually associated



- Heard best over pulmonary area, left 2nd intercostal space, just outside the sternum.
- ② Aortic area - right 2nd intercostal space just outside the sternum.
- Heart murmurs <sup>Dr. HINA VAISH</sup> adventitious sounds <sup>M.P.T. (Cardiopulmonary)</sup> & gallop rhythm  $S_3$  &  $S_4$  are other sounds.
- Heart murmurs are generated by turbulent flow of blood.

Eg - In stenosis.

$S_3$  &  $S_4$  can occur in normal person.

The gallop associated with early diastolic filling is  $S_3$  gallop.

Pathological  $S_3$  may be heard in left ventricular systolic dysfunction.

$S_4$  is late contraction.

Eg. - Pathological condition in  $S_4$  can be heard <sup>Dr. HINA VAISH</sup> is <sup>M.P.T. (Cardiopulmonary)</sup> uncontrolled hypertension.

Mediate Percussion -

- Non dominant hand in intercostal space.
- Dominant hand middle finger.
- Strike distal phalanx of non dominant hand in fast sharp motion.

Access Density of underlying organ.

Striking chest wall - vibration in organ

↓  
Sound waves

Resonant loud low amplitude, low pitch long duration lungs (air filled region)

Dull - solid organ S/A lines.

Flat - @ mass - Trighw

Tympanic - Hollow organ S/A stomach

hyper resonant - lung c emphysema.

Middle finger of @ dominant hand in inter-costal space II to rib spine Distal phalanx quick sharp mex.

Subjective examination

Chest pain c/c

Cough Time.

Dyspnoea scale → onset

Sputum

Location (P.T.)

Nature/area.

- Functional activity.
- Appetite
- Sleep
- Micturition
- Riger



menstruation

Preg / illness / Tra

① Cough - Type (dry / productive)  
 Freq.  
 Duration.  
 Intensity

② Chest pain - on set + mechanism  
 nature  
 Locat<sup>n</sup>  
 Area.  
 Behaviour of pain ↑  
 or ↓ c activity rest

③ Sputum - . colour  
 . Amount  
 . Consistency (thick / thin)

Chest pain

Causes - . Traumatic  
 . Angina pectoris  
 . Pleural effusion

Parietal pleura - Pain receptor  
Visceral pain - but it has not

Date \_\_\_\_\_  
Page No \_\_\_\_\_

# ⇒ Chest pain

Chest wall pain

visceral pain

thoracic cage pain  
(Localized pain)

Heart, pericardium, aorta  
esophagus, mediastinum  
& lung related pathology

well localized & superficial

Deep pain & difficult to localized

⇒ pleuritic chest pain → Due to pleural pathology

When the inspire than pain ↑ (as lung expand)  
but the Expirat than pain ↓

Increases with inspiration as inflamed parietal pleura is stretched due to chest wall motion such as coughing, deep breathing, laughing etc.

## Cardiac features of angina -

- It is Stabing pain, - radiate up to left jaw, arm & back of the shoulder.
- Can not be pointed with one finger
- Pain requires several contraction to reach maximum intensity

Cardiac -  
Heart

Cough



Dyspnoea -

Medical Council (MRC) Grade of  
Dyspnoea.

Grade 1 - Breathlessness of exertional activity  
/ strenuous activity

Grade 2 - Breathless ~~ness~~ on level walking / slight  
up hill

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Grade 3 - Breathlessness lower than most people or  
stops after 1/2 mile

Grade 4 - Has to stop after 100 yards or few  
minutes.

Grade 5 - Breathlessness even at undressing

⇒ Modify borg scale dyspnoea / RPE / fatigue.

Grade 0 → Nothing at all.

Grade 0.5 → very slight (Just noticeable)

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Grade 1 → very slight

Grade 2 → slight

" 3 → moderate

" 4 → somewhat severe.

Grade - 5 . severe

Grade - 6 }  
7 } Very severe  
8 }

" 9 → very 2 severe

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(P.T.)

" 10 → maximum (pulmonary)

2/09/15

### NYHA classification of Heart failure -

Grade-I Cardiac disease but no symptom/ limitation or in ordinary physical activity

E.g. - Shortness of breath when walking, climbing etc. Stair etc.

Grade-II Mild symptoms ~~or~~ for angina & slight limitation during ordinary activity.

Grade III Marked limitation in activity due to symptoms even during less ordinary activity.

e.g. - short distance walking (80-100m)  
• comfortable only at rest.

### ONAS Fatigue :-

- Reflux & tracheal stimulation.
- functional limitation.



position side -

⇒ aortic artery

side "

radial "

radial "

5. Femoral "

6. Popliteal "

7. Dorsalis pedis (Ankle should be dorsiflexed)

Note:- limb should be relaxed.

Three fingers should be used for palpate the artery.

⇒ Respiratory rate - • Inspiration to Expiration ratio is 1:2

- Rate
- Rhythm
- Depth or shallow breathing.

⇒ Sound - • Normal or equal breathing is effortless breathing.

- First 5 sec rest & rise & fall of chest observed.

Investigation :-

ECG

★ left 5th intercostal space also check the pulse  
 Apical space left 5cm of intercostal space.

Follows Scales & charts :-

		Systolic	Diastolic
Normal	⇒	< 120	< 80
Pre hypertension	⇒	120-139	80-89
Stage I hypertension	⇒	140-159	90-99
Stage II "	⇒	> 160	> 100

Classification of BMI -

under weight	-	< 18.5 kg/m <sup>2</sup>
<del>under weight</del> <sup>Normal</sup> <del>under weigh</del>	-	18.5 - 24.9 kg/m <sup>2</sup>
<del>Normal</del> <sup>over weight</sup>	-	25 - 29.9 kg/m <sup>2</sup>
obese class I	-	30 - 34.9 kg/m <sup>2</sup>
obese " II	-	35 - 39.9 kg/m <sup>2</sup>
" " III	-	> 40 kg/m <sup>2</sup>

Formula - 
$$BMI = \frac{wt (kg)}{Ht^2 (m^2)}$$

Record pulse - - record rate & rhythm.

- Grade - 0 Absent (No pulse & maximum pressure)
- Grade 1+ Threadly (Barely perceptible. ~~felt~~ in an ~~ext~~ <sup>low</sup> ~~loud~~ <sup>press.</sup>)
- " 2+ Weak difficult to palpate can be felt & light pressure
- " 3+ Normal (Easy to palpate)
- " 4+ Bounding (Very strong)



Investigations — Blood report, ECG, PFT, SpO<sub>2</sub>, Bronchoscopy, echocardiography, ABG.

Cardi Exercises Testing —

⇒ Diagnosis

⇒ Problem list

⇒ Goals —

Short term goal  
Long term goal.

⇒ Treatment plan

Follow — scales & charts —