Diagnosis of Asthma in adult
Manners of History takings:

- Greet the Pt.
- Shake the Pt. hand
- Introduce yourself, identify your patient and gain consent to speak
- Non-verbal communication:
  - Eye contact
  - Sitting position, ensure that pt. is comfortable
  - Nodding of head
  - Facial gestures
- Verbal communication:
  - Appropriate language
  - Avoid jargon and technical terms
  - Pitch, Volume
  - Rate and intonation
- Ask pt. relevant question one at a time
- Listen carefully
- Interrupt when necessary without inhibiting pt.
- Establish good relationship with pt.
- Summarize information

History:

Present illness:

- Specific symptoms: cough, wheeze, shortness of breath, nasal symptoms
- Severity of symptoms: how they affect normal activity, time off work
- Frequency of symptoms: how often- daily, weekly or less frequent
- Variability of symptoms: seasonal or diurnal variability
- When symptoms started:
- What makes symptoms worse: identify possible triggers
- What makes symptoms better
- Whether they have had these symptoms before
Past Medical history -

- Any hospital admissions with respiratory problems –
- Cardiac disease -
- Congenital abnormalities –

Personal history- Hay fever, Eczema, Perennial rhinitis & Other allergic disease

Family history -

- Asthma, Eczema, Hay fever, Perennial rhinitis
- Any respiratory disease

Social history & life style -

- Contact with pets or other animals
- Hobbies – glues, solder, paints, latex etc are all possible triggers
- Exercise – Do they participate in regular exercise? Has their exercise been affected by symptoms?
- Living conditions - Have they moved house recently? - as old houses may have molds or loose plaster, paint fumes
- Smoking –
- Recreational drug use

Occupational history -

- Current and previous employment
- Are symptoms better on days away from work or on holidays?
- Do other people in the workplace have similar symptoms?

H/O medicine - B- blocker, NSAIDs, Aspirin

Signs –

- Sign of respiratory distress - Tachypnoea, prominence of accessory resp. M.
- Breath sound - Vesicular with prolonged expiration on both sides
- High pitched rhonchi – widespread, bilateral
- Tachycardia, bradycardia, pulsus paradoxus & Cyanosis (severe case)

Investigation -

- Objectives test X-ray Chest P/A view.
- Measurement of allergen – specific Ig E – elevated
- CBC – may show eosinophilia
**Objective test**

**Bronchodilator Reversibility Test**

- **Materials need for test:** PFM/Spirometry, Short acting BD, Spacer
- **PEF is less reliable than spirometry**
- **Test may be lost during severe exacerbation/Viral infection**
- **Method:**
  - Stop BD prior to test as following-
    - **SABA > 4hrs**
    - **LABA > 15hrs**
    - **Ipratropium- 4hrs**
    - **Tiotropium- 36 hours**
  - Measure Baseline PEFR or FEV,
  - Give BD by large volume spacer
    - **400 mcg Inhaled Salbutamol or**
    - **160 mcg inhaled Ipratropium**
  - Wait for 15 minutes in case of SABA & 30 mints in case of Ipratropium
  - Measure PEFR or FEV, (depends on baseline device)
- **Interpretation** –
  - **By PFM**
    - Adult: by % & by volume (below 12 yrs. of child, not see by volume)
  - **By Spirometry** –
    - Adult: by % & by volume (below 12 yrs. of child, not see by volume)

Greater confidence if increase is > 15% & >400 ml
Steroid Reversibility Test

- **Done** –
  - Diagnosis of asthma is suspected
  - Variable symptoms
  - Previous history suggestive of asthma
  - Previous history of atopic disease

- **NICE guidelines suggest that a trial of oral steroids be used** –
  - 30 mg prednisolone (in adults) as a single daily dose for two weeks
  - 200 mcg ICS (beclomethasone) twice daily or equivalent another ICS for 6-12 weeks

- **Results: Reference – Updated GINA 2017**
  - Increase in FEV1 by >12% & >200ml after 4wks Rx, outside RTI
  - PEF increase by >20% from baseline after 4wks Rx, outside RTI

- **Results: Reference -Nice guideline**
  - PEFR: Increase in FEV1 by >20% & >at least 60 L/M
  - FEV1: Increase in FEV1 by >12% & >200ml/S
Serial Peak Flow measurement

- If possible, the patient is issued with a peak flow meter
- Record their own readings in a PEF diary for two weeks
- Best of 3 readings in the morning & the best of 3 in the early evening for 14 days
- A variation of 5% is normal even in people who do not have asthma
- Use the same PEF meter each time
- PEF may vary by up to 20% between different meter
- SPFR: - Diagnosis of occupational asthma

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Exercise Challenge Test

- Measure baseline PEF or FEV1
- The patient exercises e.g. Thread meal / Running up to 4-6 minutes
  - Until achieve 80-90% of Maximum HR by using Pulse Oximeter
  - Maximum HR = (220 - Age)
- PEF/ FEV1 is re-measured at the end of exercise and every 10 mints for 30 mins
- At the end of exercise: PEF is increased due to Release of stress hormone
Another test

- Methacholine challenge testing (Bronchoprovocation)
- Inflamed airway-
  - Neox test (NO) - discolor due to release of NO from inflamed area, Raised temp.
  - EBT test - exhaled breath temp
- Eosinophil in sputum:
  - Asthma COPD overlap syndrome
  - Steroid dose continues

Diagnostic flow chart

Flow chart of objective test for diagnosis of asthma