# Respiratory Disease.

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ALUCA Conference.

Christchurch.

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# What’s in the air?

# What’s in the air?

- Asthma
- Chronic obstructive airways disease

# What’s in the air?

- What is important for underwriters and claims managers?

# What's in the air?

- What factors predict mortality?
- Can we predict the likelihood of disability?
- Does treatment influence mortality or disability?

# What tools can an underwriter use?

# What's in the air?

- An outline of the problems which occur in asthma and chronic obstructive lung disease.
- The effects of treatment.
- Useful tests,
- Factors which influence mortality and disability.
- How should  underwriters use this information..

# Asthma.

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- Often comes on in childhood
- Can start at any age; even in the elderly
- Allergy is often important; not the only cause
- Very mild to life threatening
- Modern treatment improves outlook

# Chronic obstructive airways disease.

- COAD.

# Chronic obstructive pulmonary disease.

- COPD.

# Chronic obstructive lung disease.

- COLD.

# Chronic obstructive airways disease: COAD.

- Also chronic obstructive pulmonary disease: COPD.
- Chronic obstructive lung disease: COLD.

# COPD: COAD: COLD.

- Classification of lazy Drs.?

- Emphysema
- Chronic bronchitis
- Chronic, poorly managed asthma

# Consider the pathological changes.

- Asthma.
- COPD.

# What changes are happening in asthma?

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- Changes in the wall of the bronchus.
- Especially contraction of the muscle.
- Changes in the lining of the bronchus.
- Especially swelling (edema) of the lining (mucosa.)
- Accumulation of secretions in the interior (lumen) of the bronchus.


METRIC
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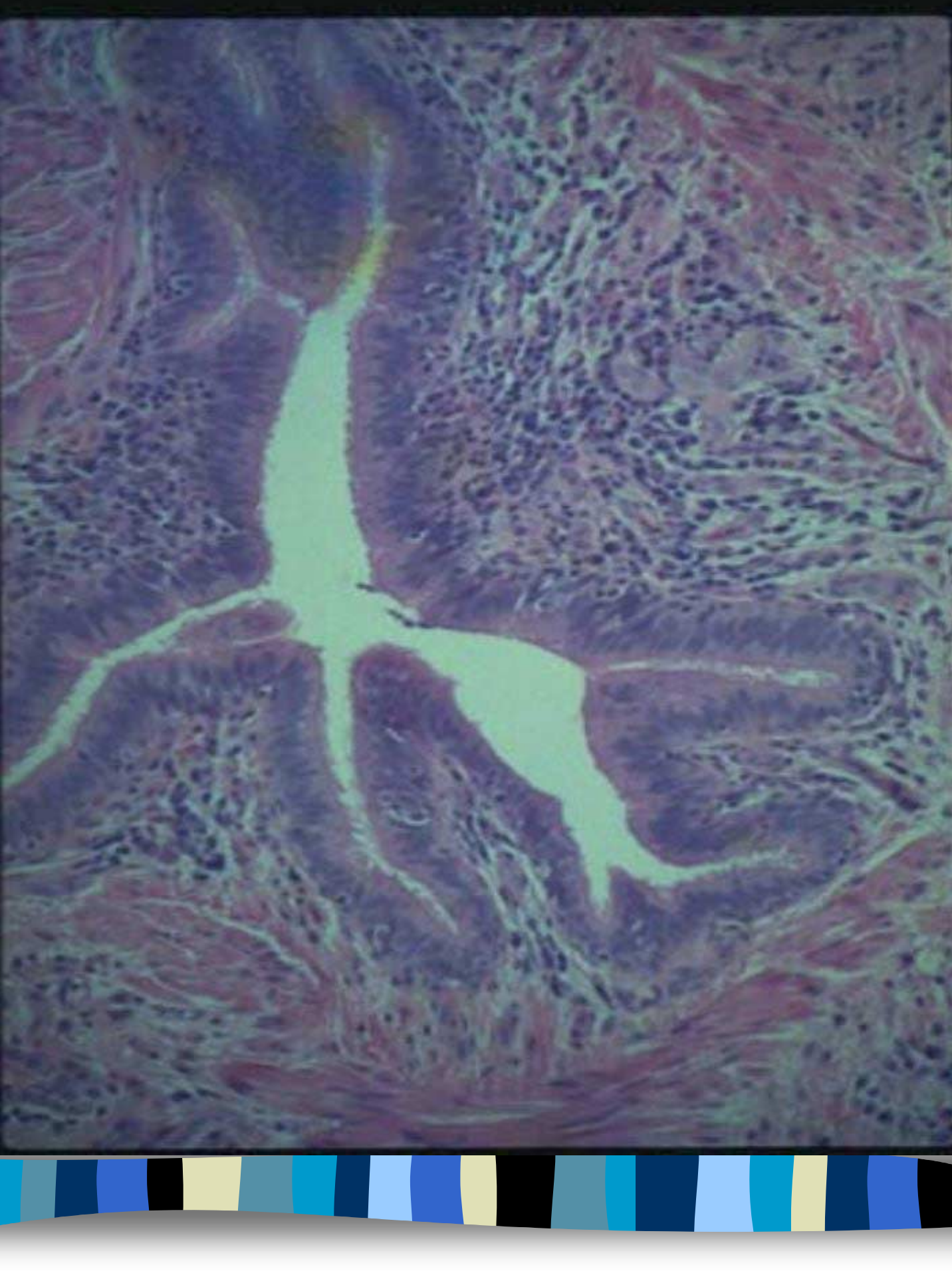
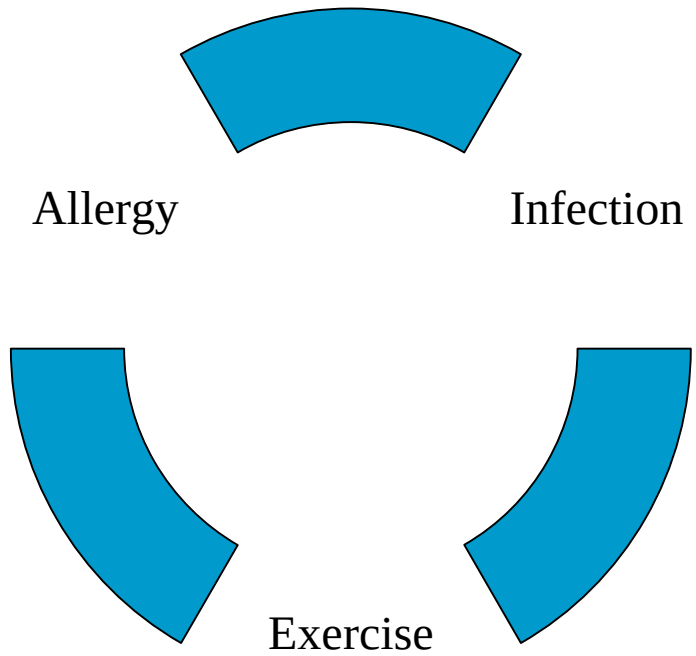


# What causes these changes?

- Heredity.

- Non-specific factors such as temperature or humidity change, strong smells.



# Common causes of allergy

- House dust mite.
- Pets: cats, dogs, birds
- Grass.
- Pollens.
- Many occupational factors.
- Foods: food additives.
- Drugs: aspirin.

# Usually multiple causes.

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- Long standing dust mite allergy.

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- Also chronic allergy to pets such as cats.

# Usually multiple causes.

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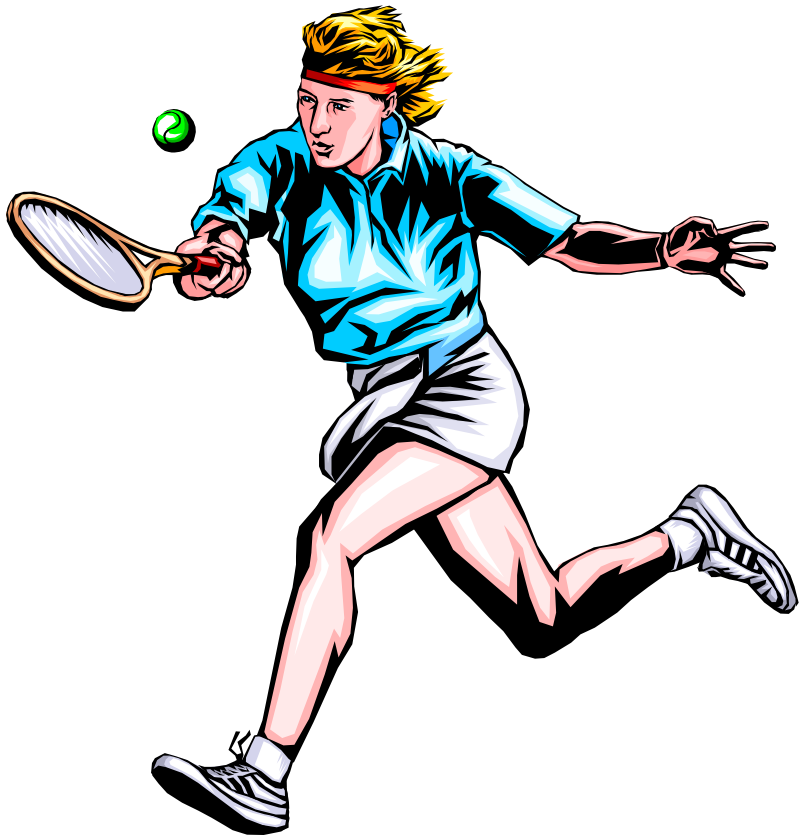
- Also chronic allergy to pets such as cats.

- Cause chronic inflammation of airways and low grade symptoms.

# Usually multiple causes.

- Long standing dust mite allergy.
- Also chronic allergy to pets such as cats.
- Additional factors act as triggers and cause acute attacks on background of chronic inflammation.

# Trigger factors.



- Exercise.

# Trigger factors.

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- Temperature changes.

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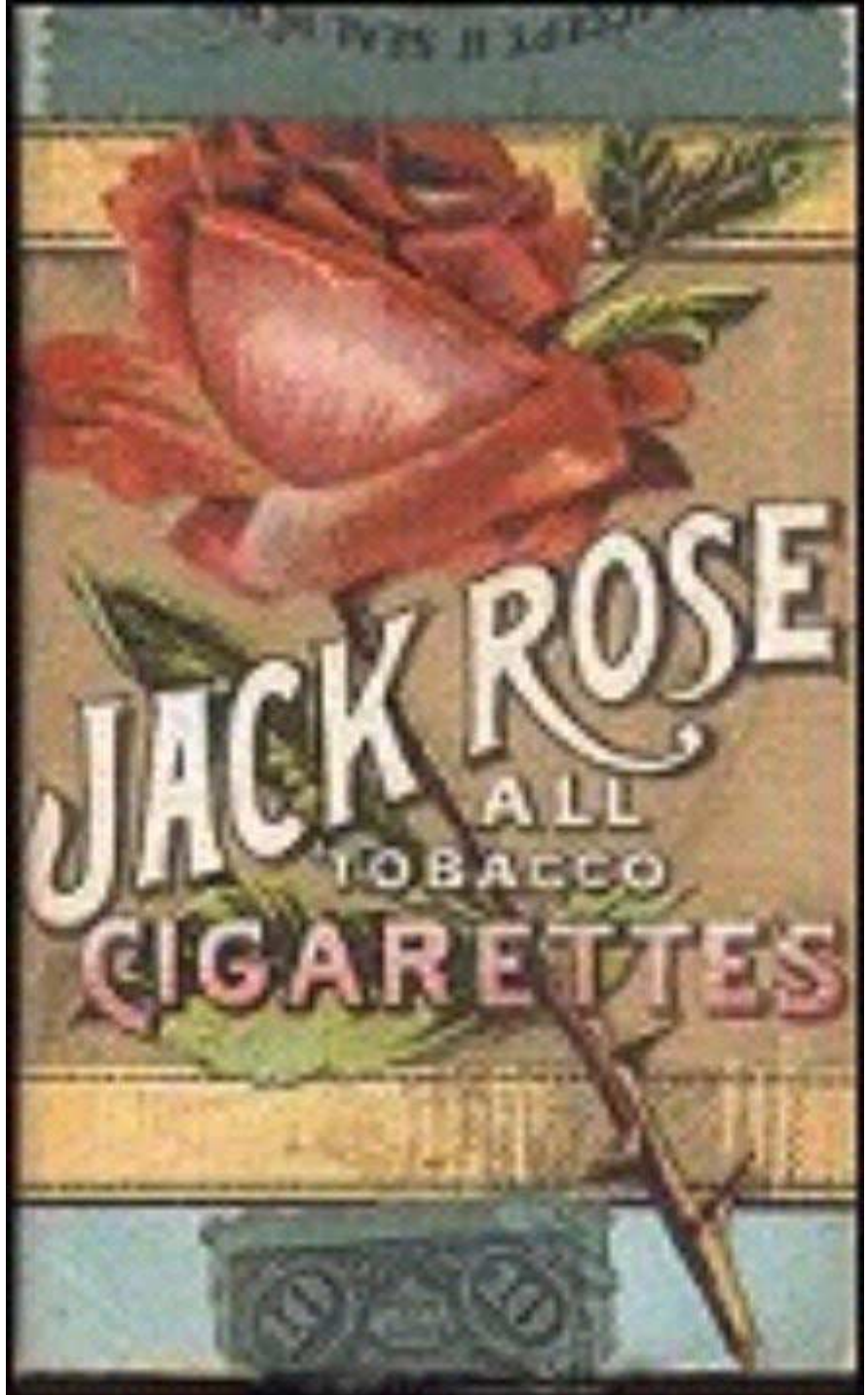
- Exercise.
- Temperature changes.
- Infections such as colds.

# What causes COPD?


JACK ROSE
ALL
TOBACCO
CIGARETTES

# What causes COPD?

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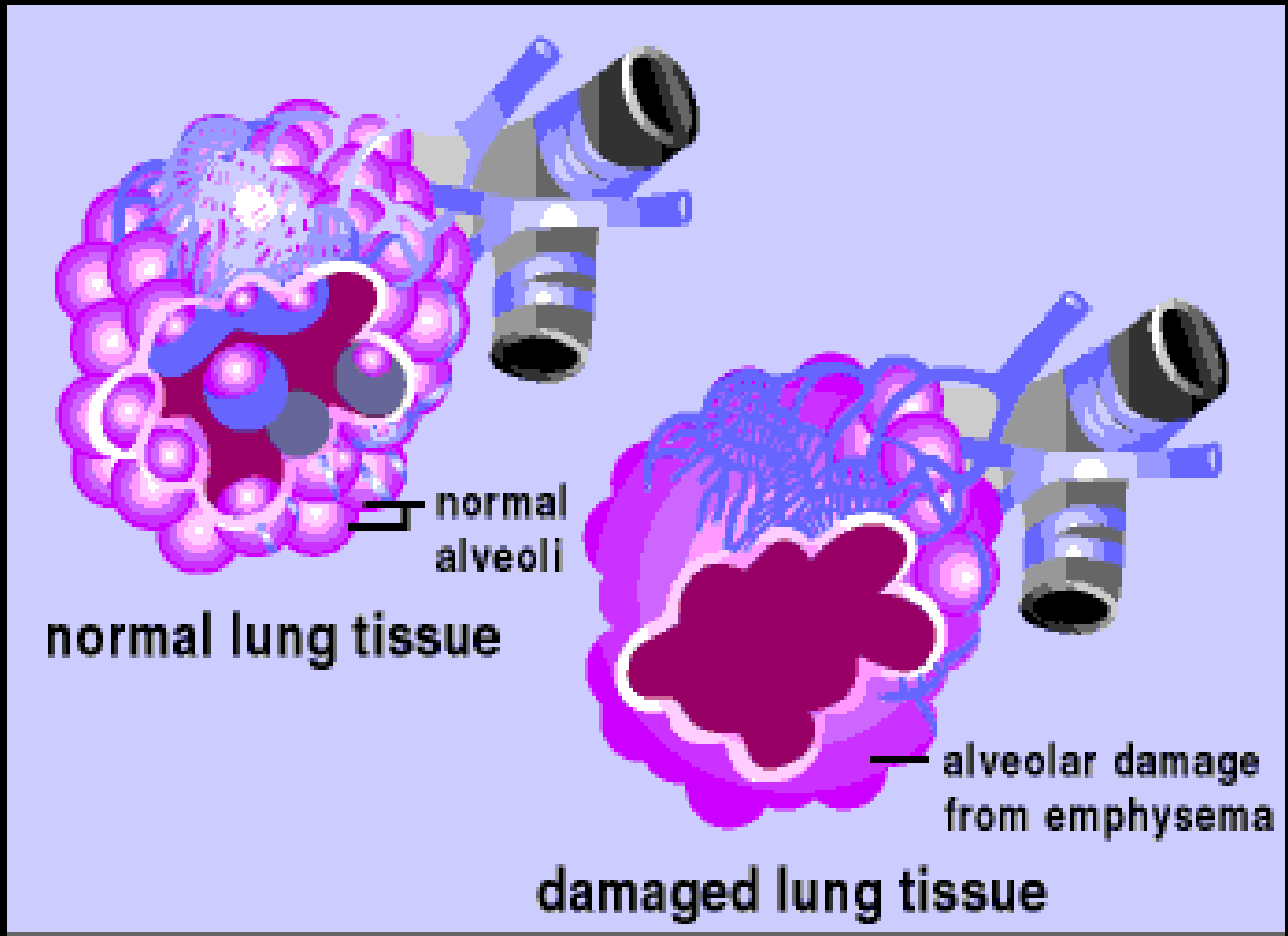
# What causes COPD?

- Smoking.
- Once established, episodes of infection cause worsening.
- Industrial factors and air pollution have a lesser role.

# How Emphysema Affects The Lungs



# Chronic bronchitis.

- Also smoking related.
- Inflammation of the bronchi causes narrowing.
- There is also enlargement of the glands which produce mucus.
- Hence excess mucus production ( leading to cough and phlegm.)

# Poorly controlled asthma

- Effects of long standing, poorly controlled asthma are similar to chronic bronchitis.

# COPD.

- Emphysema.
- Chronic bronchitis.
- Late stage, poorly controlled asthma.

# What treatments are available?

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- Relievers.

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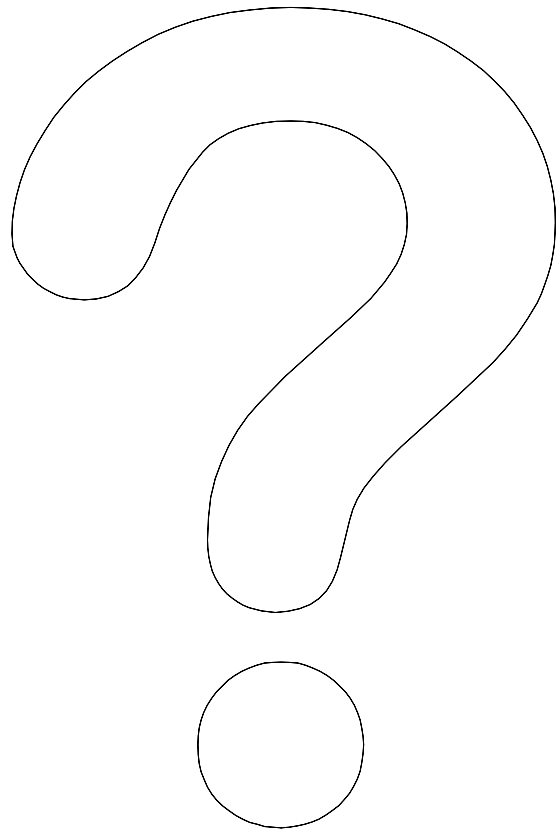
- Regular for prevention.
- Most are inhalers of cortisone-like drugs.
- Relievers.
- Used only as required to relieve symptoms.

# What treatments are available? Asthma.

- Aim not just to relieve symptoms.
- To keep function as near to normal as possible.
- Good treatment improves mortality and makes disability less likely.

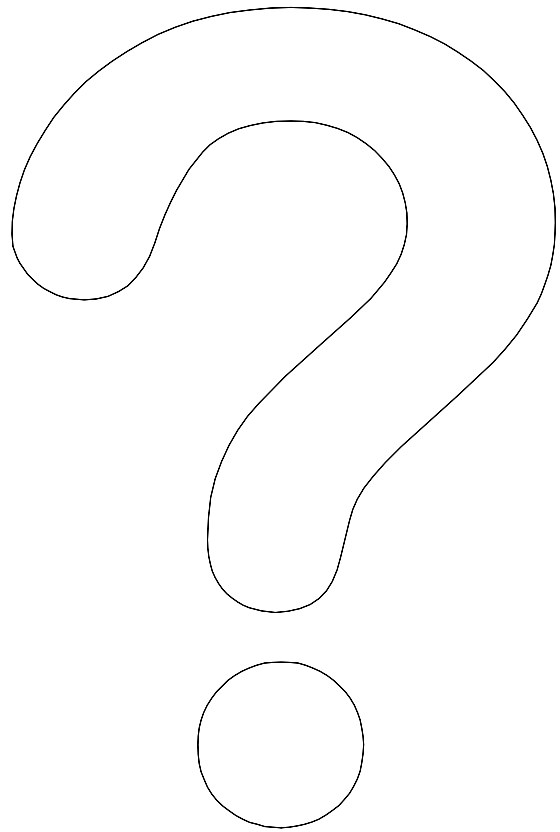
# Tips for underwriters.

- Beware the asthmatic with few complaints.



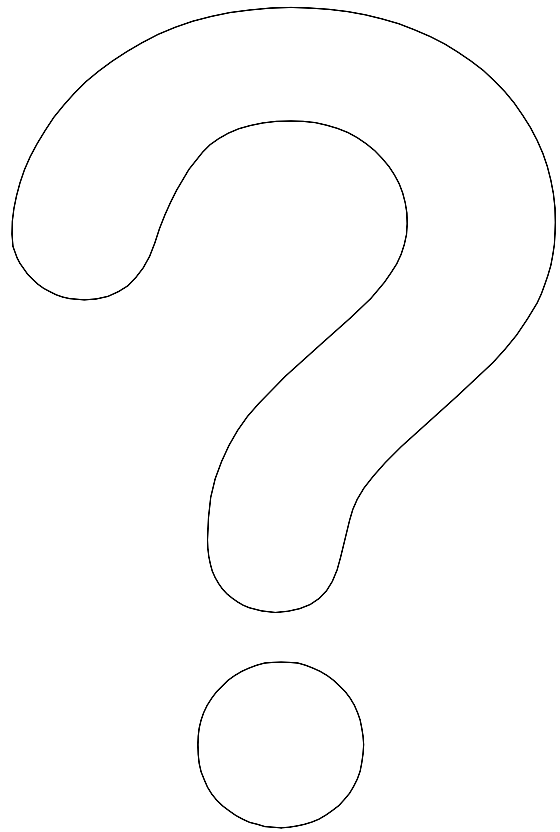
# Tips for underwriters.

- Beware the asthmatic with few complaints.
- Beware the asthmatic whose Dr. feels he has few problems,



# Tips for underwriters.

- Patient may be tolerant of the symptoms.
- Dr. may underestimate an uncomplaining patient.



# Tips for Claims Managers

- Nondisclosure is common.
- Patients and Drs often underestimate severity.

# Let us now consider the treatment of COPD.

- COAD.
- COLD.

# What treatments are available? COPD.

- Generally less effective than treatments for asthma.

# What treatments are available? COPD.

- Smoking cessation.

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- Rehabilitation: mainly an exercise program.

# What treatments are Available? COPD.

- Smoking cessation.
- Rehabilitation: mainly an exercise program.
- Similar treatments as for asthma ( but less effective.)
- Antibiotics.
- Vaccinations: influenza.

# What treatments are available? COPD.

- Do not reverse the process.

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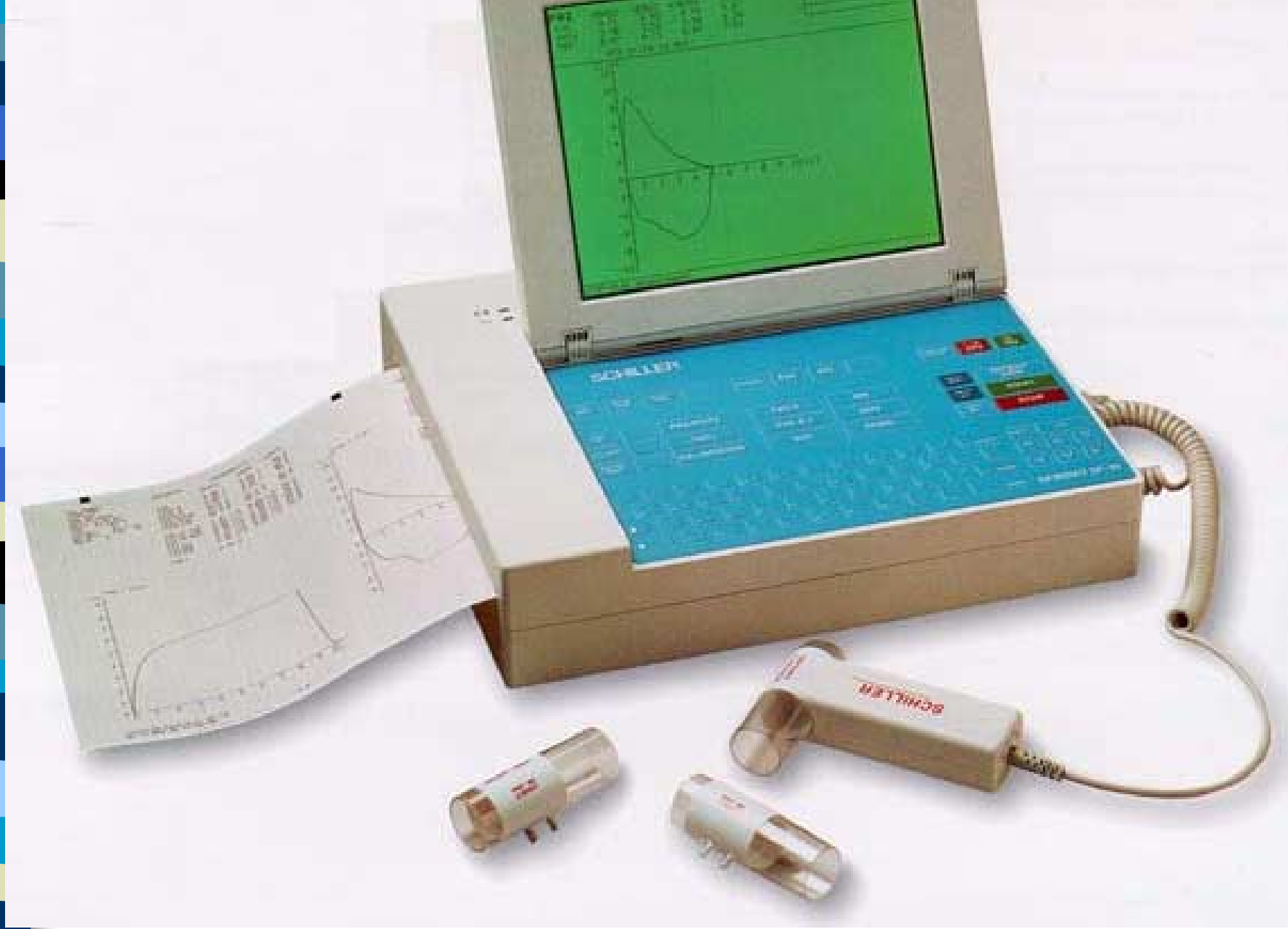
- Steady decline, which occurs in smoker, is arrested.

# What treatments are available? COPD.

- Do not reverse the process.
- Steady decline,which occurs in smokers, is arrested.
- Age related decline continues.

# How can we assess severity in asthma and COPD?

- History from patient and Dr. may be unreliable.
- Signs on examination are often non-specific.
- X-rays are of limited use.
- Mechanical tests of lung function are unavoidable.


SCHILLER

# Lung function tests.

- Equivalent of blood pressure measurement in assessing hypertension

# Lung function tests.

- Forced expired volume in 1 sec.; $FEV_1$.
- Volume of air expired in the first second.

# Lung function tests.

- Vital capacity;  VC.
- Total volume of air expired after a maximal breath in.

# Lung function tests.

- $FEV_1$ / VC %.  ( $FEV_1$ as % of VC.)

# Lung function tests.

- Peak expiratory flow rate; PEFR.
- Maximum flow in first  1/10 sec. of expiration.

# Lung function tests.

- Forced expired volume in 1 sec.; $FEV_1$.
- Vital capacity; VC.
- $FEV_1$/ VC % ( $FEV_1$as % of VC.)
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# Lung function tests.

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- How can underwriters use them?
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- How do we know if any value is normal?

# Lung function tests.

- Age.

# Lung function tests,

- Age,
- Sex.

# Lung function tests.

- Age.
- Sex.
- Size.

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- Age.
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- Size.
- Ethnicity.

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- Age.
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- $FEV_1$% 75 – 80 %.

- Look up tables.

# Lung function tests.

- Age,
- Sex.
- Size.
- Ethnicity.
- $FEV_1$%. 75 – 80%.

- Look up tables.
- Express values as % of predicted normal.

# How should underwriters assess severity?

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- If severe it can cause death in young people.
- Even moderate asthma leads to time off work.
- Potential for long term disability.
- COPD.

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- Asthma.
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- Potential for long term disability.

- COPD.
- 4th commonest cause of death.
- Frequent cause of time off work.
- Inexorable descent to total disability.
- Decline faster if smoking continues.

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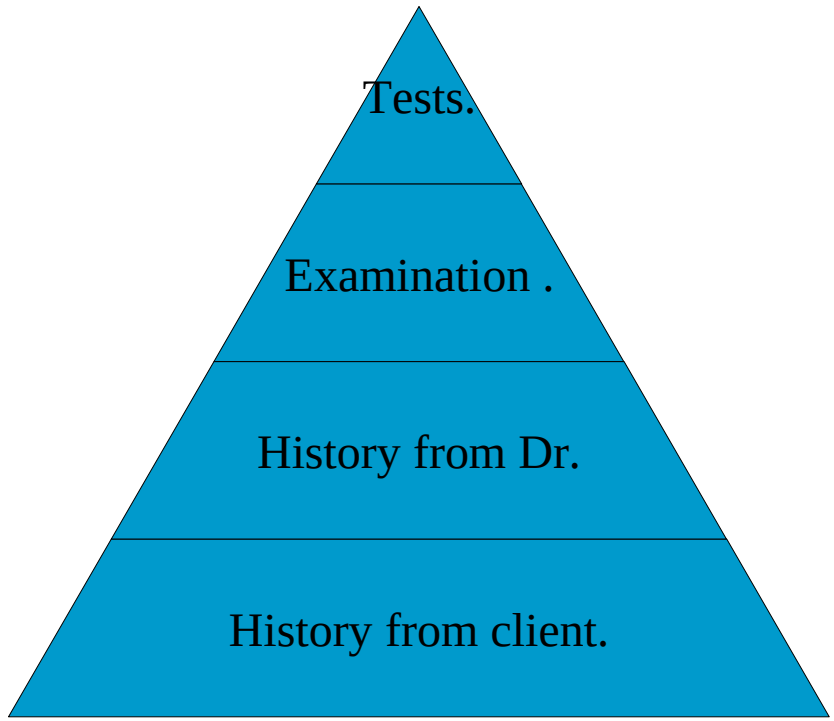


# How should underwriters assess severity?

- Asthma.
- COPD.

# How should underwriters assess severity?

## Asthma.

- Mild.
- Moderate.
- Severe.
- Very severe.

# Mild asthma.

- No hospital admissions or emergency department visits.
- Never prednisone.
- Small dose of inhaled steroids (or none.)
- Use of reliever inhaler less than once daily.
- Normal lung function when well.

# Moderate asthma.

- No hospital admissions or emergency room visits in past 2 years.
- Never in an intensive care unit.
- Prednisone courses less than 1/ year.
- Moderate dose of inhaled steroids.
- Reliever inhaler less than 2 puffs daily.
- Normal lung function when well.

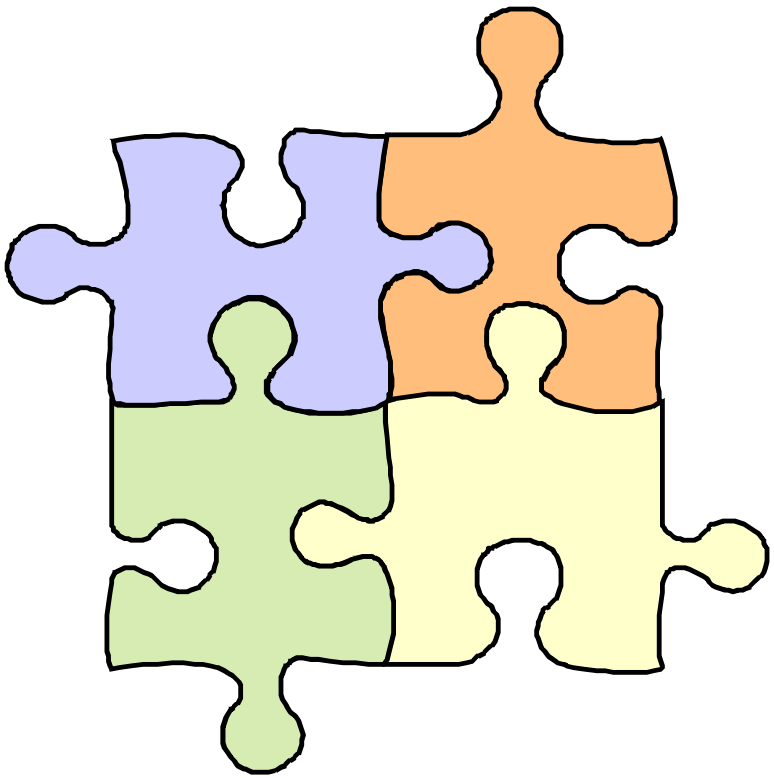
# Severe asthma.

- Less than 3 hospital admissions or emergency room visits in past year.
- Frequent courses of prednisone but not continuous prednisone.
- High dose inhaled steroids.
- Frequent use of reliever.
- Moderately abnormal lung function when well.

# Very severe asthma.

- More than three admissions, or admission to intensive care, in past year.
- Continuous prednisone.
- Marked limitation on daily activities.
- Very abnormal lung function even when well.
- NB. This category is really a type of COPD.

# Tips for underwriters.



- Decide on severity.
- Refer to a manual.

# Tips for underwriters.

- Mild; consider OR for life, critical illness, IP, disability.

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- Mild; consider OR for life, critical illness, IP, disability.
- Moderate; consider small loading for life, OR critical illness, IP (but 90 day wait), disability.

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- Severe; consider medium loading for life, critical illness, large loading for IP (90 day wait), disability.

# Tips for underwriters.

- Mild; consider OR for life, critical illness, IP, disability.
- Moderate; consider small loading for life, OR critical illness, IP (but 90 day wait), disability.
- Severe; consider medium loading for life, critical illness, large loading for IP (90 day wait), disability.
- Very severe; consider declining all.

# Tips for claims managers.

- Ensure that treatment is optimum.
- Consider possibilities of non-disclosure.

# How should underwriters assess severity?
# COPD.

- Be wary of continuing smokers.
- Severe problem can be present with few complaints if subject is not exercising.
- Lung function tests even more important than in asthma.
- If borderline asthma/COPD, rate as COPD.

# How should underwriters assess severity?

## COPD.

- Mild.
- Moderate.
- Severe.
- Very severe.

# How should underwriters assess severity?
# COPD. Mild.

- Limitation only for unusually strenuous activities.
- Not current smoker.
- $FEV_1$/ VC greater than 70%.
- Not on prednisone continuously.
- Fewer than one  course of antibiotics and prednisone annually.
- No hospital admissions in past year.

# How should underwriters assess severity?
# COPD. Moderate.

- Limitation on extra exertion eg. Climbing stairs.
- Not current smoker.
- $FEV_1/VC$ greater than 60%.
- Not more than one course of prednisone and antibiotics in past year ( not on continuous prednisone.)
- Not more than one hospital admission in past year (and no admissions to intensive care.)

# How should underwriters assess severity?

# COPD. Severe.

- Limitation on ordinary activities eg. dressing or bathing.
- Current smoker.
- $FEV_1/VC$ not less than 40%
- Continuous prednisone or more than three courses in past year.
- Not on daily oxygen.
- Not needing treatment for heart failure.
- Fewer than three admissions in past year ( and  no intensive care admissions.)  .

# How should underwriters assess severity?
# COPD. Very severe.

- Minimal physical activity.
- Current smoker.
- $FEV_1/VC$ less than 40%.
- Daily oxygen.
- More than three hospital admissions in past year or an admission to intensive care.

# How should underwriters rate COPD? Mild.

- Life: small loading.
- Critical illness: ordinary rates.
- IP: small loading: 90 day wait.
- Disability: small loading or exclude.

# How should underwriters rate COPD? Moderate.

- Life: medium loading.
- Critical illness: ordinary rates.
- IP: medium loading: 90 day wait.
- Disability: exclude.

# How should underwriters rate COPD? Severe.

- Life: large loading.
- Critical illness: large loading.
- IP: decline or exclude.
- Disability: decline or exclude..

# How should underwriters rate COPD? Very severe.

- Decline for all categories.

# Tips for underwriters.

- Be wary of the uncomplaining patient.
- Be wary of the uncomplaining Dr.

# Tips for claims managers.

- Nondisclosure is common because symptoms are accepted.
- Many patients are not optimally treated.
- In general they show a steady decline.

# Take home messages. Underwriters.

- History may be unreliable.
- Examination can be normal even with severe disease.
- Usually require lung function tests.
- Consider history of hospital admissions especially to intensive care.
- Consider history of drug use especially steroids ( prednisone.)

# Take home message.
# Claims managers.

- Nondisclosure common especially in COPD.
- Both asthma and COPD may be treated less than optimally.
- Rehabilitation is useful especially in COPD.

# What is in the air?

- Asthma
- COPD.