

COPD

Management in the community

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Content of session

∅ Will consider

- | the impact of COPD
- | COPD Strategy recommendations
 - and NICE 2004
- | Community management of
 - Stable COPD
 - Acute exacerbations

Impact of COPD

- ∅ On those with the disease
 - | Progressive symptoms
 - | Reduced exercise tolerance
 - | Reduced quality of life



- On health and social services
 - | Pressures on services in community and hospitals
 - | Admissions / length of stay
 - | Prescriptions
 - | Social care /benefits



Overview of the impact of COPD

- ∅ A common, preventable and costly disease.
 - | 835,000 diagnosed with COPD but estimated >2 million undiagnosed, with around 5.5% having mild disease.
- ∅ Exacerbations have an impact on patient quality of life and can be life-threatening
- ∅ More than 25,000 deaths annually in the UK
 - | Higher than EU average (especially in females – 3x higher than in Italy and France)
- ∅ By 2030, COPD will be 3rd most common cause of death worldwide

Strategy for Services for COPD

(DH Consultation document Feb 2010)

4 main objectives

- ∅ Objective 1 :
 - | Prevention – encourage and support people to make healthy choices about their life
 - | Supporting early identification

- ∅ Objective 2 :
 - | Enabling a good quality, early diagnosis
 - | At diagnosed good quality information on the illness and on and structured care is available

- ∅ Objective 3 :
 - | High quality care and support following diagnosis
 - | Help people to manage their condition themselves through structured exercise and education
 - | Reduce the number of admissions
 - | Address the poor prognosis associated with admissions to hospital

- ∅ Objective 4
 - | Improve access to end of life care
 - | Ensuring equity in care provision for people with severe COPD

- ∅ ***22 recommendations about how these objectives may be achieved***

It is clear that much of this is deliverable
in a community setting

.....



Management of COPD

NICE/BTS (Feb 2004)

(in brackets – Strategy objectives)

- ∅ Earlier diagnosis (1)
- ∅ Prevent deterioration (2)
- ∅ Stop smoking (1 and 2)
- ∅ Effective pharmacology (2 and 3)
- ∅ Pulmonary rehabilitation for all who need it (2 and 3)
- ∅ Manage exacerbations (3)
- ∅ Multi-disciplinary working (all)

*New guidelines currently out for consultation -
due for publication June 2010*

Earlier, and good quality diagnosis

(objectives 1 & 2)



Finding the missing millions

∅ Recommendation 6

- | HCPs should be aware of risk factors for COPD and be able to offer advice and support to people in making healthy choices in their lives.
- | and to encourage patients to seek advice earlier

- | Raising awareness
 - Recognising symptoms of lung disease and encourage to seek assessment

- | Screening strategies?
 - Linked to smoking cessation services?
 - Opportunistic?

Diagnosis

∅ Recommendation 8

- | A diagnosis of COPD should be confirmed by quality assured spirometry and other investigations appropriate to the individual

∅ Recommendation 9

- | An assessment should be made of co-morbid conditions at the point of diagnosis and at least every 3 years

∅ Recommendation 10

- | Disease registers should be accurate and used to improve COPD outcomes



Diagnosis

∅ Diagnosis is based on

| History

- Pack years
- Presence and onset of symptoms
- Age

| Investigations

- lung function tests - with low FEV₁/FVC ratio demonstrating airflow obstruction
- monitor response to treatments
- Chest x-ray
- ? Need for referral for full lung function testing

Micro Medical Ltd.

Cat No. PSA 1600

Patient Name: _____
 ID: _____ Date: 21/05/01 Time: 10:37
 Sex: Female Age: 61 Race: CAUCASIAN
 Height: 155 cm

All Spirometry Results

BASE			
TEST	1	2	3
FEV1	1.38	1.53	1.42
FVC	2.18	2.35	2.38
PEF	187	187	196
UAR	-4	+4	0

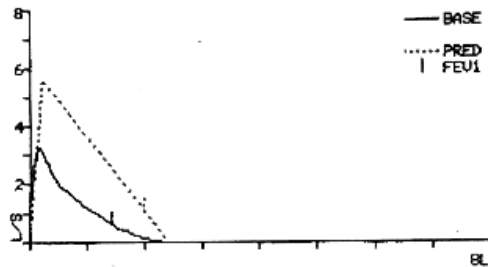
Best Spirometry Result: Base = 3

Base				Normal			
Base	%Pred	PostBD	%Pred	%Chs	Min	Pred	Max
FEV1	1.42	71	1.37	1.99	2.61	L	
FVC	2.38	96	1.68	2.39	3.18	L	
PEF	196	59	246	334	423	L/M	
FEV1%	62	88	67	78	88	%	
F50	0.97	28	1.62	3.43	5.24	L/S	
F25	0.29	24	0.88	1.21	2.34	L/S	
MEF	0.73	26	1.38	2.78	4.18	L/S	
I50						L/S	
R50						%	
PIF						L/S	
MUJ	53					L	
FET	6.92					S	

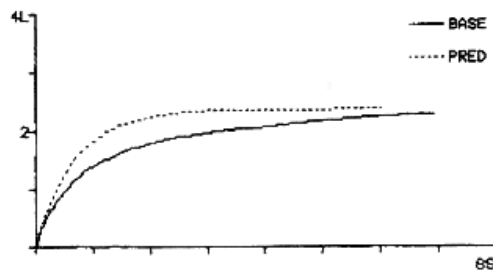
Lung Age =

Interpretati

Flow/Volume



Volume/Time



Patient Name: _____
 ID: _____ Date: 26/05/00 Time: 10:28
 Sex: Female Age: 71 Race: CAUCASIAN
 Height: 168 cm

All Spirometry Results

BASE			
TEST	1	2	3
FEV1	0.54	0.48	0.48
FVC	1.28	0.98	1.02
PEF	89	41	42
UAR	+35	0	0

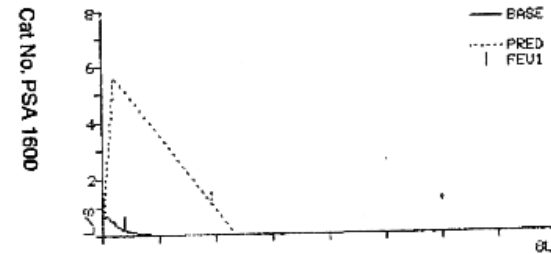
Best Spirometry Result: Base = 3

Base				Normal			
Base	%Pred	PostBD	%Pred	%Chs	Min	Pred	Max
UC	0.43						
FEV1	0.40	21	1.32	1.94	2.56	L	
FVC	1.02	43	1.64	2.35	3.06	L	
PEF	42	13	244	333	422	L/M	
FEV1%	39	52	65	76	86	%	
F50	0.17	5	1.49	3.38	5.11	L/S	
F25	0.07	7		1.01	2.14	L/S	
MEF	0.13	5	1.18	2.58	3.98	L/S	
I50						L/S	
R50						%	
PIF						L/S	
MUJ	15					L	
FET	9.48					S	

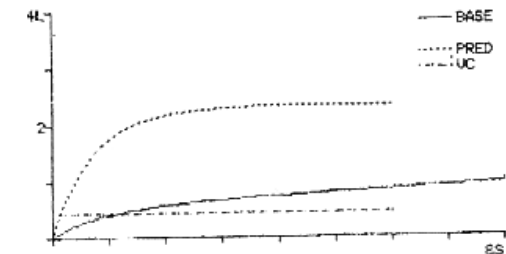
Lung Age:

Interpretation:

Flow/Volume



Volume/Time



Micro Medical Ltd.

Cat No. PSA 1600

How to achieve these?

- ∅ Essential to consider knowledge and skills of staff in :
 - | undertaking and interpreting spirometry
 - | making a diagnosis
 - | recognising co-morbidities
- ∅ What training available and recommended?

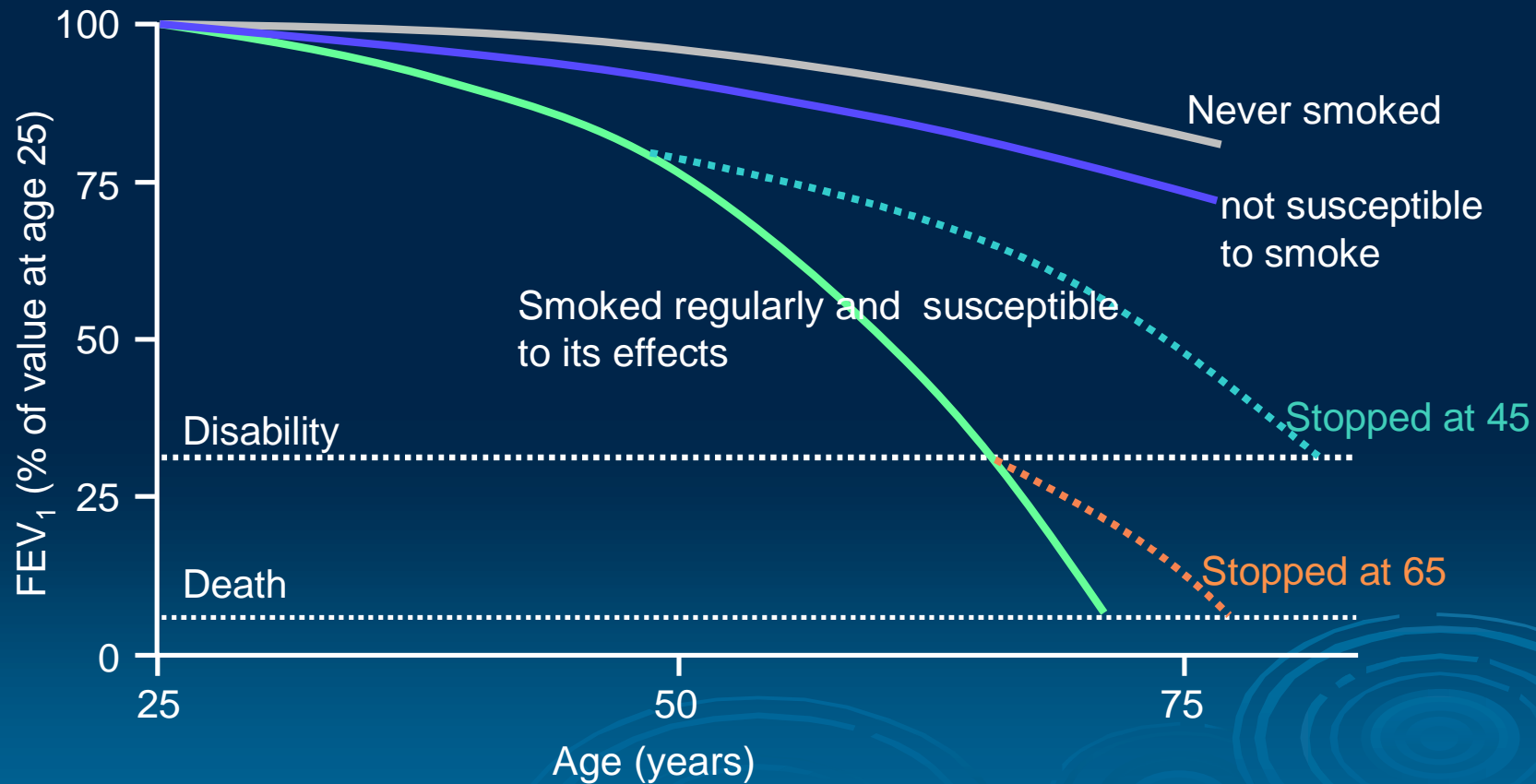
High quality care and support
following diagnosis.
(objective 3)



Prevention of deterioration

Most important - to stop smoking

- *the only action to slow down rate of deterioration in the lungs*



Fletcher and Peto, 1977

Smoking cessation

- ∅ Assess desire to stop
- ∅ Behavioural support
- ∅ Refer as appropriate
- ∅ NRT and other therapy
- ∅ Ongoing support



- ∅ *Consider role of case finding through smoking cessation services ?*

Effective pharmacological management

∅ Alleviate symptoms / optimise therapy:

- | Bronchodilators - short /long acting according to disease severity and guidelines
- | Consider delivery device
- | Consider response to therapy

∅ Reduce exacerbations:

- | Inhaled corticosteroids
- | Mucolytics
- | flu and pneumonia vaccines




Helping people to manage their condition themselves

(objective 3)



Self care

- ∅ .. is a part of daily living and involves individuals taking responsibility for their own health and well being
 - ∅ Essential to recognise there may be factors which influence individuals ability to care for themselves such as
 - | Health - long term illness
 - | Social and environmental factors
- 

The Self Care Agenda

- ∅ Increasing emphasis on promoting independence / empowerment
- ∅ Improving choice for patients
- ∅ Lord Darzi –Next Stage Review
 - | Recommends implementation of a range of care pathways – 2 of which have implications for self care –
 - Staying Healthy
 - Long Terms Conditions
 - | Personalised care plans for all with LTC.....

Supporting self-care

- ∅ to achieve/maintain maximal functional ability and QoL
- ∅ *By:*
 - | Personalised care plan including self-management / treatment (as per guidelines)
 - | Pulmonary rehabilitation
 - | Strategies to support self-management:
 - Chest clearance / breathing control advice
 - Anxiety management
 - Energy conservation
 - | Social care assessment

Supporting self care..... in management of exacerbations

∅ Knowledge - and confidence to use plans

.....

- | Earlier recognition
- | Earlier intervention
 - May be to seek advice
 - | At surgery
 - | Call specialist team, CMs, others?
 - Initiate stand by therapy – if provided



Recommendation 15

- ∅ “all people with COPD should be advised to undertake moderate exercise according to their condition. People with functional impairment should be referred for quality assured pulmonary rehabilitation”
 - | Currently availability is not equitable across England and programme content does vary.
 - | Little consensus about what elements of programmes are critical for success.

- ∅ COPD Strategy group propose to publish a document to advise commissioners on:
 - | Specifications for high quality PR services
 - | Widespread use of PR
 - | Consultation Impact Assessment has identified that greater use of PR nationally would bring around £5.5million savings

Pulmonary Rehabilitation

∅ ATS/ERS definition

- | “An evidence based multi-disciplinary and comprehensive intervention for people with COPD who are symptomatic and often have decreased daily life activities. Integrated into the individualised treatment of the patient, PR is designed to –

reduce symptoms, optimise functional status, increase participation and reduce healthcare costs through stabilising or reversing systemic manifestations of the disease”

(and by improving psychological status)

∅ Locally:

- | Available in 6 localities in Leeds –
- | Around 600 places available p.a (increased from 50 places p.a 5 years ago)
- | Demonstrated significant improvement in QoI and exercise tolerance

- | Local audit (1 wedge of PCT) of ~50 patients 1 year pre and 1 year post PR found:
 - 43% reduction in admissions
 - 27% reduction in length of stay if admitted

Management of stable COPD in the community

∅ Primary care

- | Regular review (NICE 2004)
 - Mild/Moderate disease – management reviewed annually
 - Severe disease – six monthly, or more
- | Should include:
 - Spirometry
 - O2 saturation
 - MRC
 - Consideration for specialist referral ie community or secondary care, eg:
 - | disproportionate breathlessness
 - | PR

Management of stable COPD in the community

| Community care

- May include:
 - | Education programme
 - | Exercise programme
 - | Action plan including contact numbers etc
 - | Prescriptions for self-treatment of exacerbations
 - | Review in home, community or hospital
 - | Supported early discharge
 - | Psychological support
 - | Support, advice and education for carers

Primary and community care (cont')

∅ Reduce complications and other :

- | Assessment for, and treatment with oxygen if and when needed
- | Treatment of exacerbations promptly
- | Nutritional advice
- | Manage co-morbidities (eg cardiac disease)
- | Manage complications optimally – eg type II respiratory failure, persistent infections
- | Consider end of life needs

Oxygen in the community

- ∅ *'All people with COPD should be regularly assessed for LTOT and reviewed at regular intervals, and existing home oxygen registers should be reviewed'*
(recommendation 14)
- ∅ Monitor and refer on for LTOT assessment, flight assessments etc
- ∅ Annual LTOT review - which might include ABGs, consideration of O2 delivery modalities etc
 - ∅ Suggested that savings of between £10 and £20 million could be made annually in England by reviewing O2 registers, modalities of O2 in use etc
- ∅ Potential for review of patients who are unwell, which could support admission avoidance strategies.

Supporting evidence for CDM in COPD?

(BTS 2007)

∅ Improved QoL

- | Little evidence demonstrating that CDM improves QoL

∅ Improved lung function or mortality

- | No available evidence

∅ Reduce healthcare utilisation

- | 'Evidence is conflicting and unclear' , but some studies do suggest this may be achieved (Bourbeau et al 2003; Ferrero et al 2001)
 - Hospital admissions for AECOPD reduced in intervention group (p <0.01)
 - A&E visits reduced by 41% and emergency GP visits/appts reduced by 59% (p 0.003)
 - Greater improvement in HRQoL in intervention group at 4 months - not significant after this period (Bourbeau et al 2003)

∅ Recommends further robust study

Reducing admissions



Why are exacerbations important?

- ∅ May be the only, or first time patients present
 - ∅ Consume a lot of resources
 - ∅ Are a major factor in winter bed crises
 - ∅ Worsen health status
 - ∅ May lead to disease progression
-
- | 1 in 8 emergency admissions may be due to COPD
 - 90,000 + admissions p.a
 - | Admissions increased by 50% in last decade
 - Over 1m bed days p.a
 - | Almost half of all costs associated with COPD care are related to hospital admissions
 - | Wide variation in LoS and mortality between hospitals
 - | Around 15% of people admitted die within 3 months of admission and 25% within a year
 - | Readmission rates vary by up to 5% in different parts of country

Recommendations ...

- ∅ 17 - “quality of the identification and management of exacerbations should be improved and all people who have had an exacerbation should be reviewed afterwards to ensure their treatment remains optimal and relapses are reduced to a minimum”
- ∅ 19 - “.... people with COPD should receive a specialist review when acute episodes have required referral to hospital”

Strategies to reduce admissions and LoS for patients with COPD

∅ Reducing healthcare utilisation

- | Pulmonary rehabilitation
- | Self-management education plans

∅ Managing exacerbations

- | Early discharge schemes / integrated 1° : 2° care
 - | Acute respiratory assessment services
- 

NICE Recommendations:

- ∅ NICE (2004) - recommended HaH and assisted discharge schemes and confirmed their safety (following appropriate protocols etc)

- ∅ 'Intermediate care – HaH in COPD' (BTS 2007)
 - | Review of evidence of different approaches.
 - ESD
 - | 35 – 40 % eligibility of patients
 - | may be more suited to hosps with lower admission rates
 - Combined ESD and AA (eg ARAS)
 - | Best suited to inner city hosps, might be expensive but is effective
 - Eligibility for HaH from 30-35% with ~ 10% readmission rate

- ∅ 44% of hospitals had access to ED schemes

COPD UK audit, Price et al 2006

Some issues re home management of exacerbations ...

- ∅ Most exacerbations can be assessed and managed in the community
- ∅ What skills and competencies required by staff making this decision?
 - | Is this really an acute exacerbation?
 - | What criteria to decide on where to manage the patient
 - | Are there any co-morbidities?
 - | Differential diagnosis?
 - | Is further assessment eg ABGs, CXR required?
- ∅ If might otherwise have been for admission, but decision to manage at home - with specialist review and support:-
 - | What assessment tool
 - | What frequency of review
 - | What would prompt admission later
 - | Who is responsible for the patient during this period?

Acute exacerbation?

“..... is a sustained worsening of the patient’s symptoms from his or her usual stable state that is acute in onset.”

With 2 or more of the following:

- | ***Increased*** sputum volume
- | ***Increased*** sputum purulence
- | ***Increased*** breathlessness



Hospital or Home?

FACTORS TO CONSIDER WHEN DECIDING WHERE TO MANAGE PATIENT

Factor	Favours treat at home	Favours treat in hospital
Able to cope at home	Yes	No
Breathlessness	Mild	Severe
General condition	Good	Poor – deteriorating
Level of activity	Good	Poor/confined to bed
Cyanosis	No	Yes
Worsening peripheral oedema	No	Yes
Level of consciousness	Normal	Impaired
Already receiving LTOT	No	Yes
Social circumstances	Good	Living alone/not coping
Acute confusion	No	Yes
Rapid rate of onset	No	Yes
Significant comorbidity (particularly cardiac and insulin dependent diabetes)	No	Yes
Pulse oximetry SaO ₂ <90%	No	Yes

Differential diagnosis....

Some other causes of similar symptoms

Pneumonia

Pneumothorax

PE

Acute cardiac failure

Pulmonary oedema

Upper airways obstruction

Hyperventilation

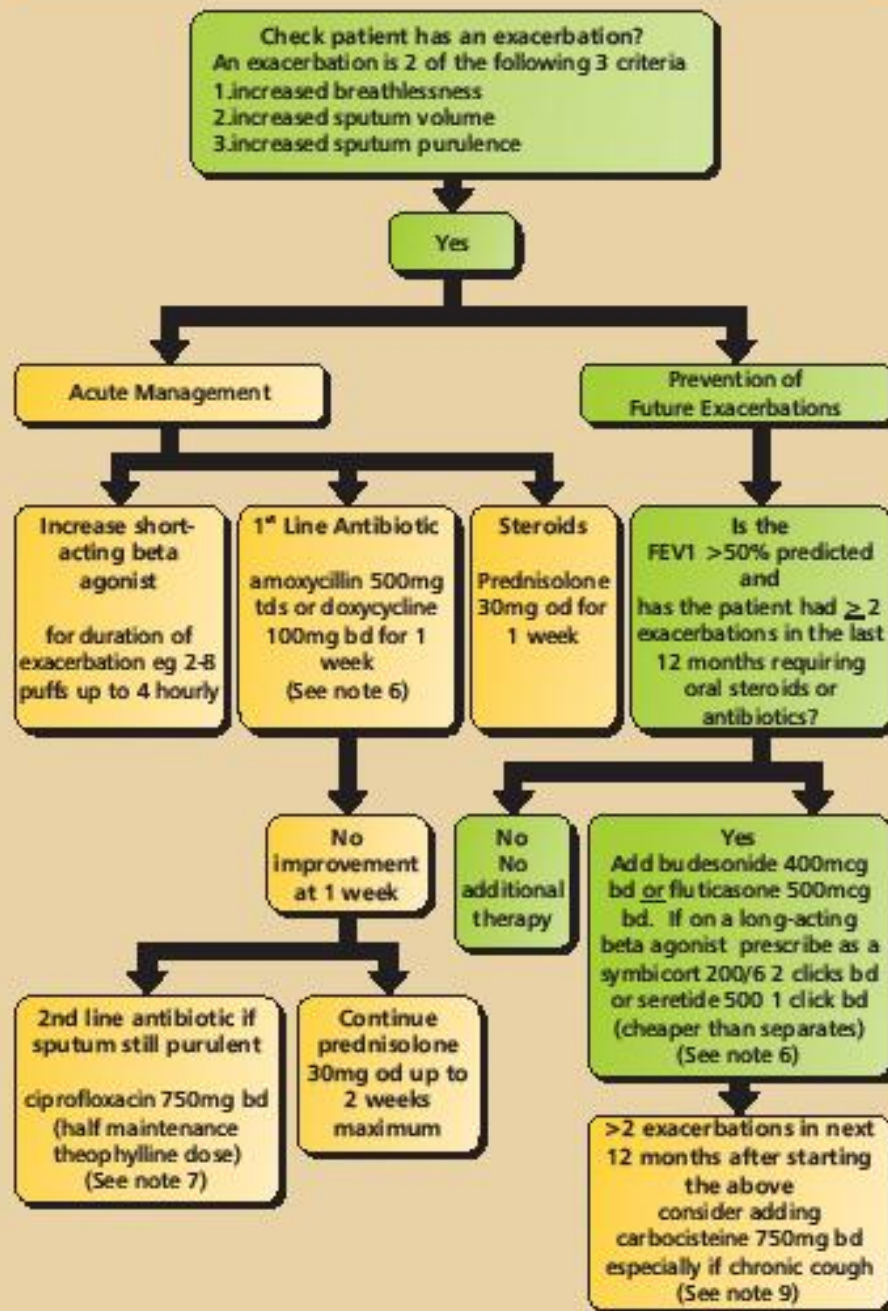
Bronchiectasis

Ca lung

Pleural effusion

ILD

Management and Prevention of Exacerbations




Who will review the patient and for how long?

If it is an exacerbation which might otherwise have resulted in admission:

∅ Should be reviewed daily, at least over the next 3 days by someone with the clinical skills to :

- make an accurate assessment
- interpret findings appropriately
- recognise onset of complications
- know when to refer

What is happening locally to support community COPD care?

- ∅ Primary care team
 - ∅ Community based respiratory teams
 - ∅ Integrated services delivering ED, PR, other home/community based services
 - ∅ Support from BLF
 - ∅ Development of specialist centres
 - ∅ Community matrons
 - ∅ Rapid response teams
- 

In conclusion

- ∅ Much of COPD management can be delivered in a community setting by
 - | Staff who are trained and competent to deliver a quality service
 - | Use of evidence based integrated pathways of care and clinical guidelines
 - | Patients being given the opportunity and support to contribute to their care and to self-manage appropriately
- ∅ Imperative that patients are referred for specialist, hospital care when required
- ∅ Although, some traditionally hospital services could and should be developed in a community setting.....

