

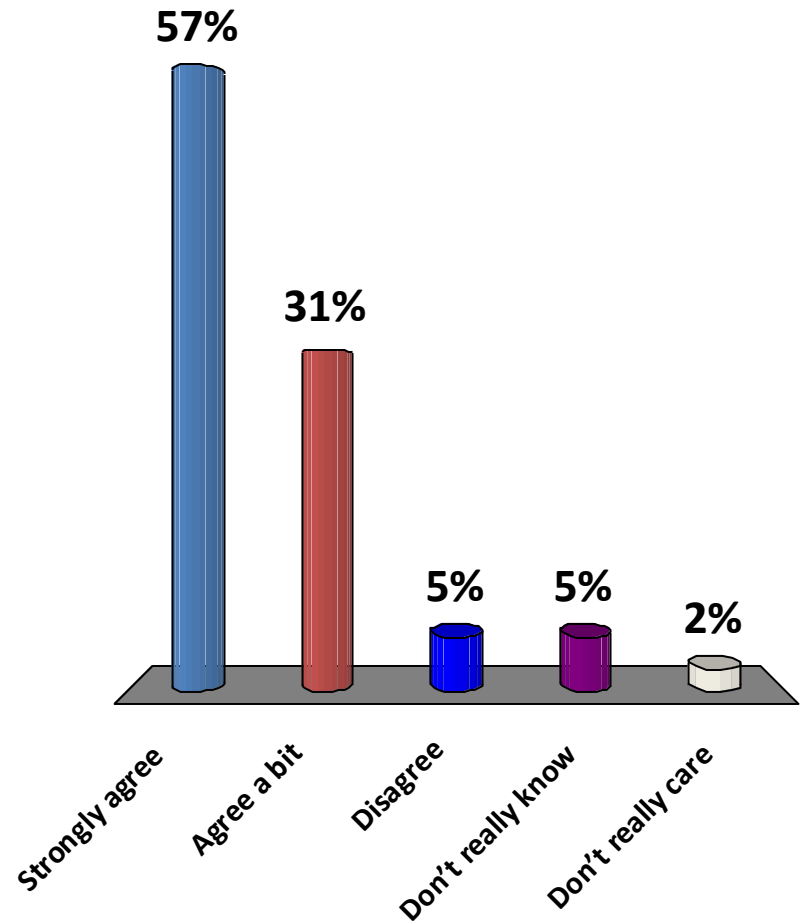
Airways Disease 2015

Gail and Jon Miles

Rotherham Foundation Trust

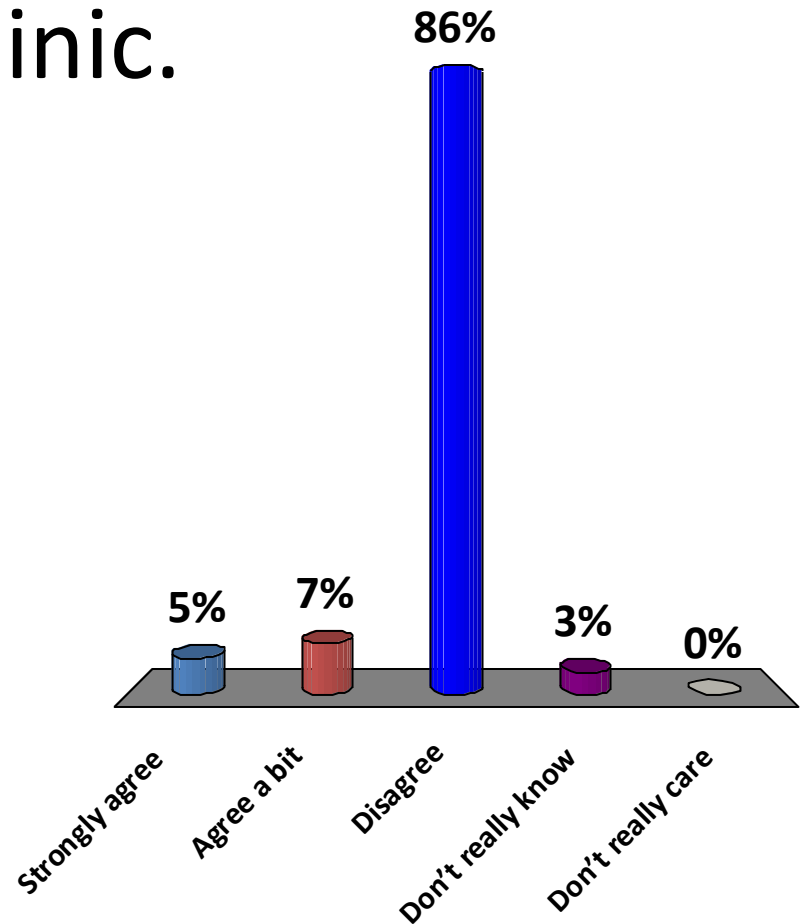
COPD self-management plans are good for COPD patients

- A. Strongly agree
- B. Agree a bit
- C. Disagree
- D. Don't really know
- E. Don't really care



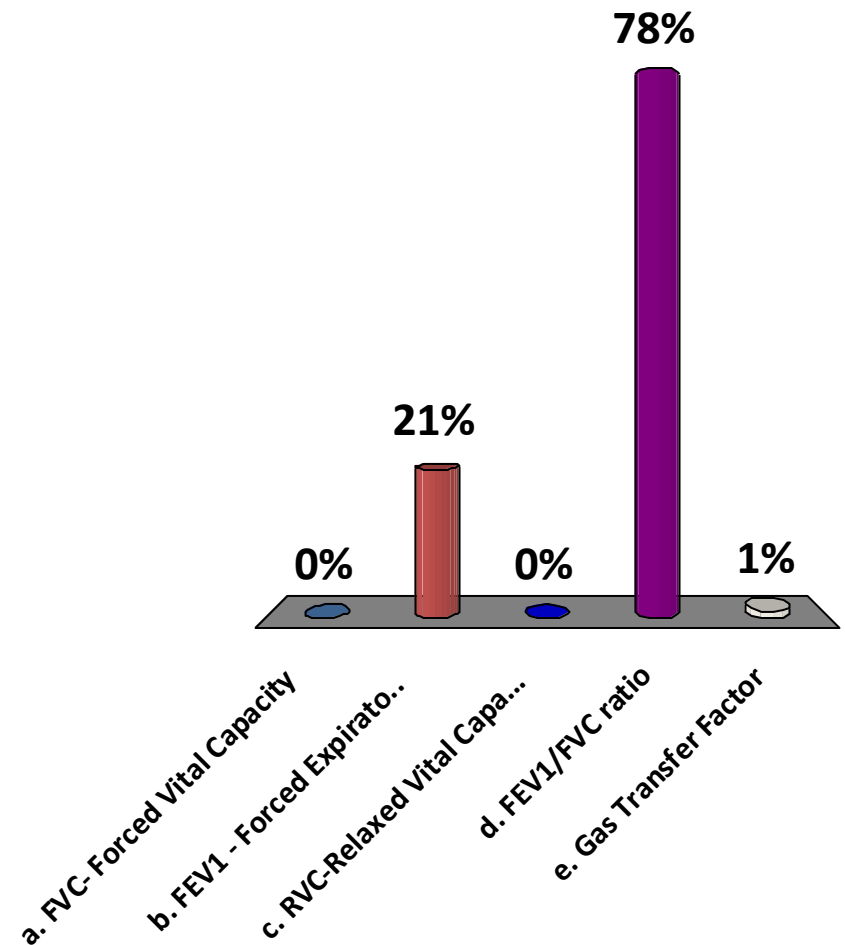
All patients with a persistent cough for at least 3 weeks should be referred on a 2 week wait to a specialist lung cancer clinic.

- A. Strongly agree
- B. Agree a bit
- C. Disagree
- D. Don't really know
- E. Don't really care



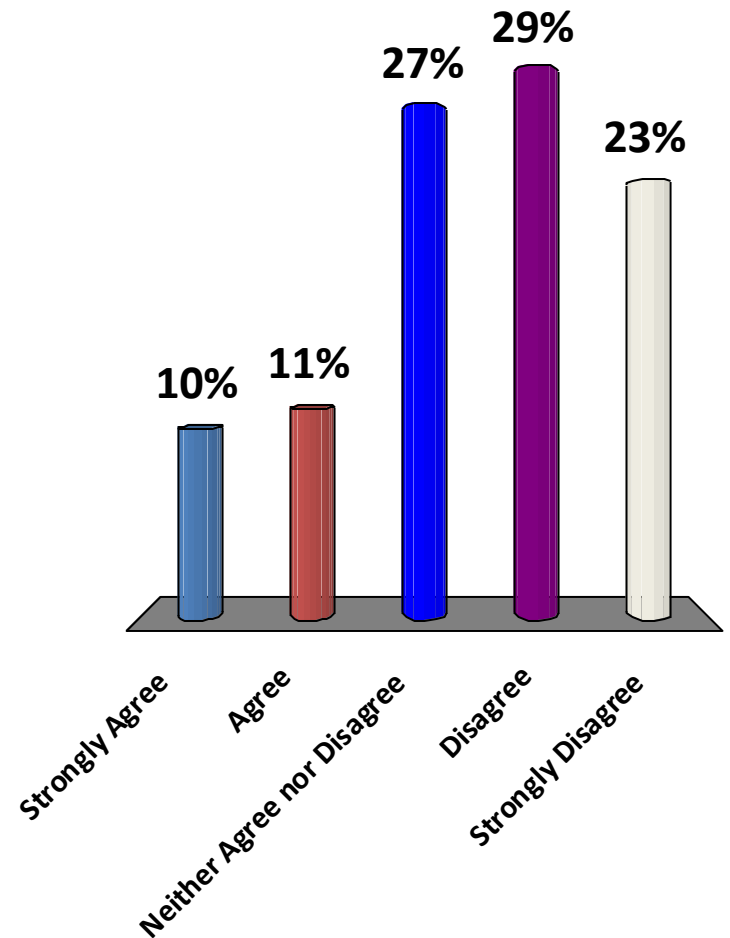
The most important measurement in the diagnosis of COPD is

- A. a. FVC- Forced Vital Capacity
- B. b. FEV1 - Forced Expiratory Volume in 1 sec
- C. c. RVC-Relaxed Vital Capacity (RVC)
- D. d. FEV1/FVC ratio
- E. e. Gas Transfer Factor



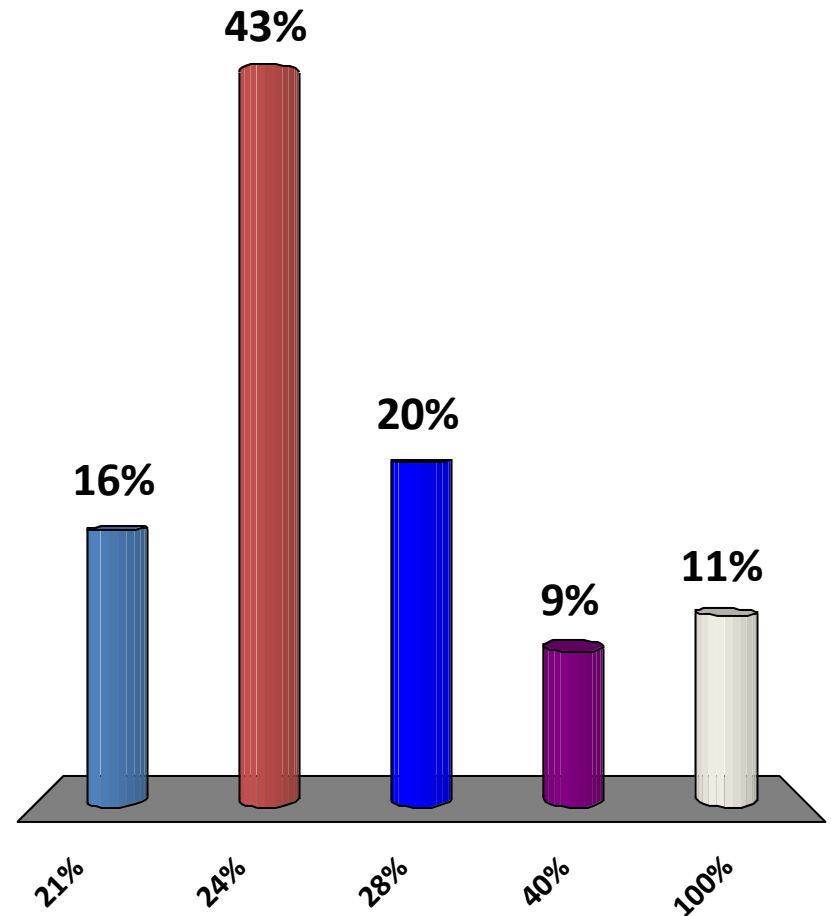
Practice nurses should stop doing inhaler assessments and start doing pulmonary rehabilitation

- A. Strongly Agree
- B. Agree
- C. Neither Agree nor Disagree
- D. Disagree
- E. Strongly Disagree



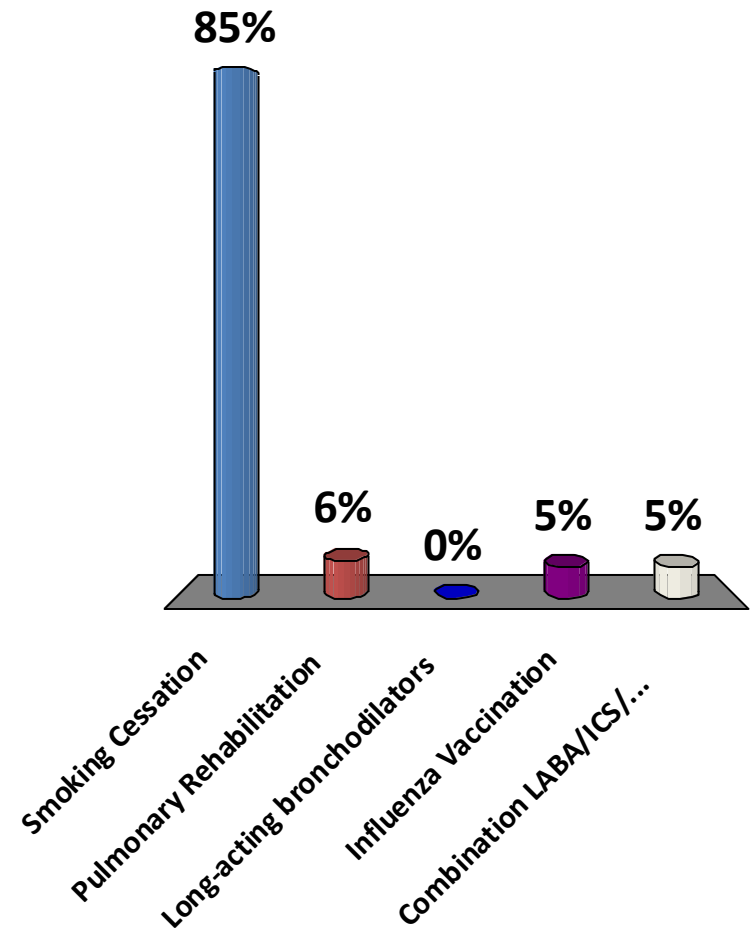
The Percentage of oxygen that comes out of the end of nasal cannulae at a flow of 2L/min is.....

- A. 21%
- B. 24%
- C. 28%
- D. 40%
- E. 100%



The most cost-effective treatment for COPD is.....

- A. Smoking Cessation
- B. Pulmonary Rehabilitation
- C. Long-acting bronchodilators
- D. Influenza Vaccination
- E. Combination LABA/ICS/LAMA therapy



Meet John.....

- Chest tight first thing in the morning
- Coughs up phlegm every morning before first cigarette for last 5 years
- Sleeps through the night without difficulty
- Recently taken early retirement from the PO
- Examination: normal



What diagnosis can you confidently make already?

- “Productive cough every morning for at least 3 consecutive months for 2 consecutive years in the absence of another cause”

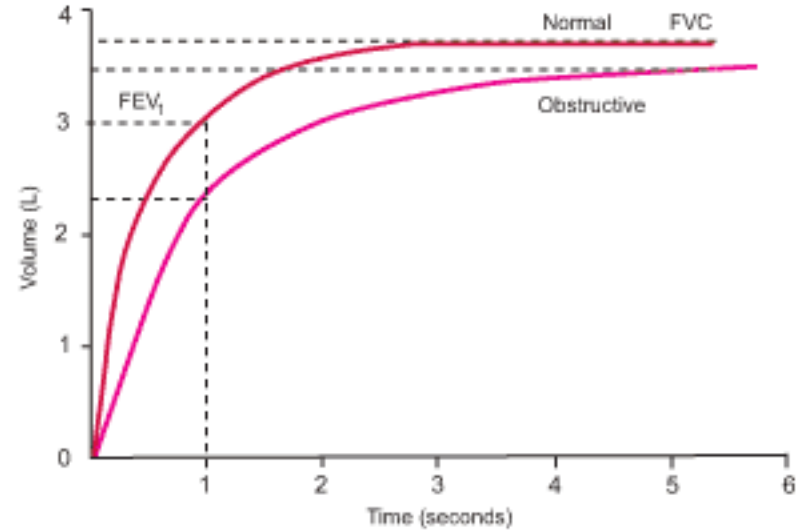
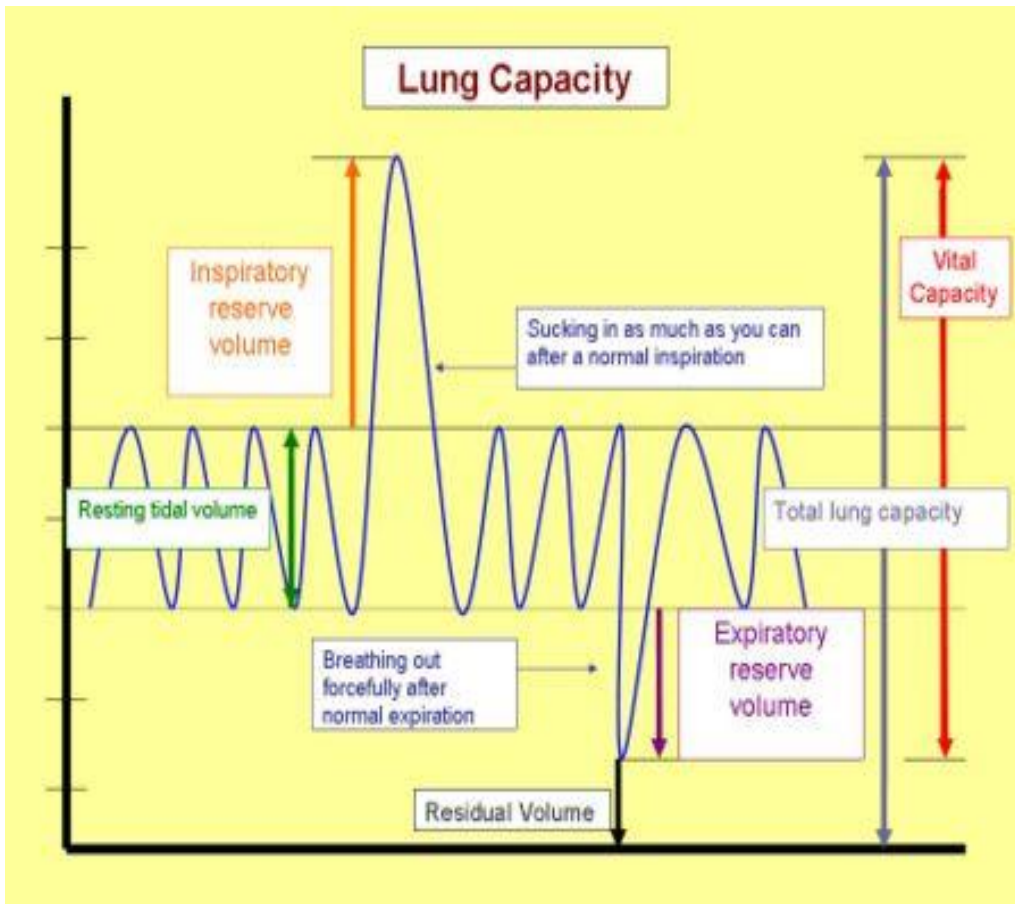


Summary of Investigations

- 56 year old with wheeze
- Sputum production in the morning
- No asthma
- Lots of pack years
- Normal FEV1, FVC, FEV1/FVC ratio
- Normal ECG
- Hyperinflation on CXR
- No reversibility



Review Spirometry

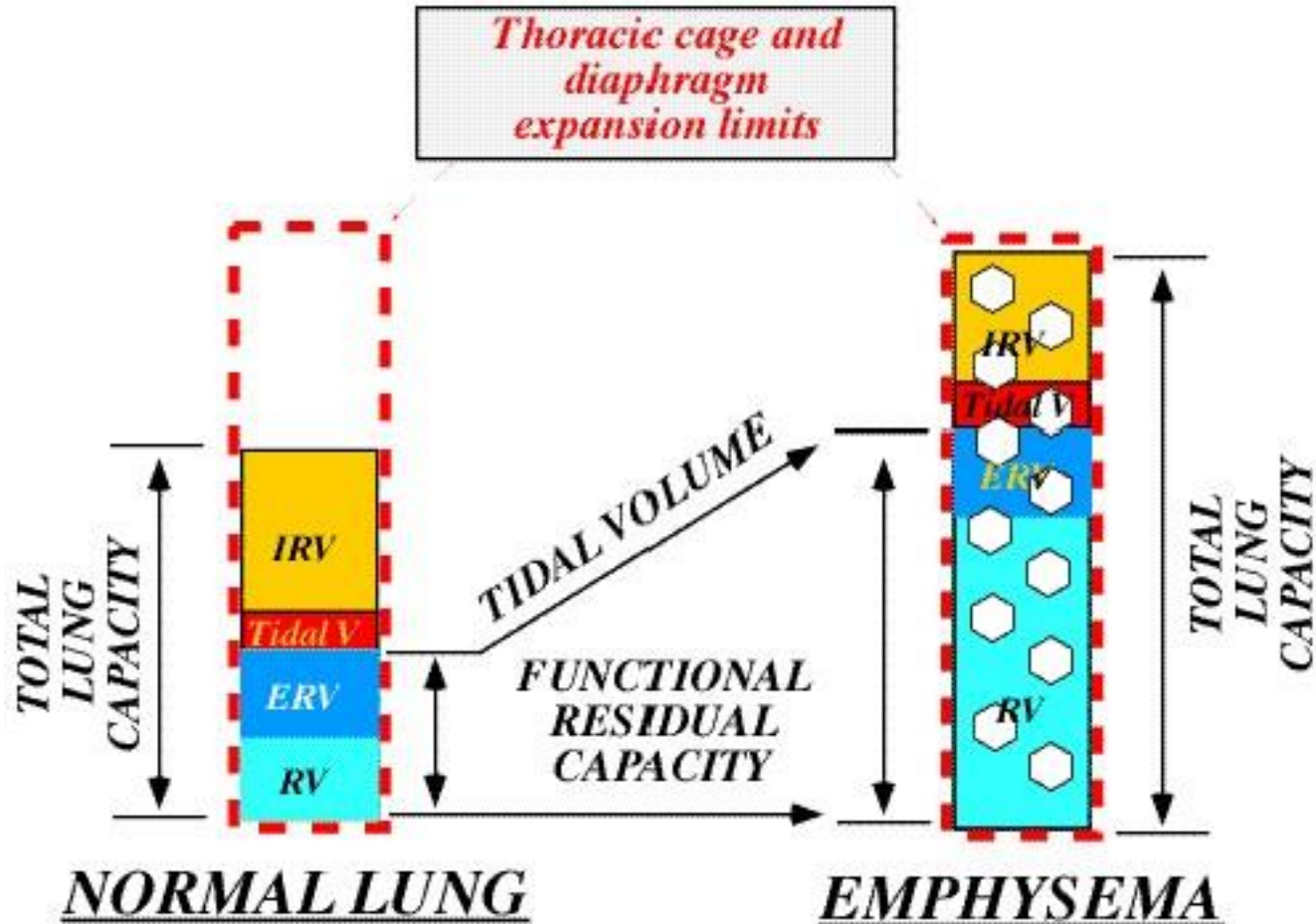


Check the Relaxed Vital Capacity

Review Spirometry

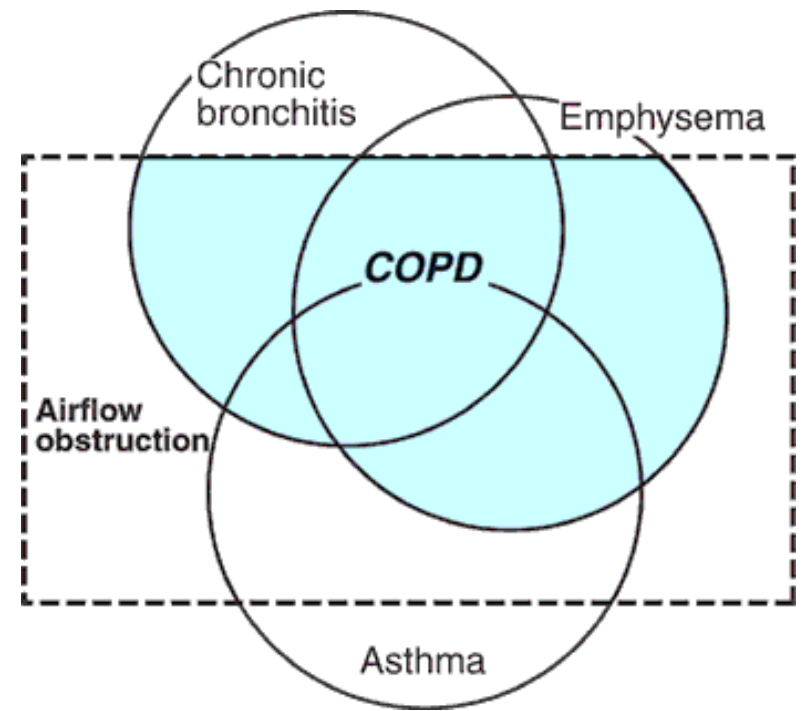
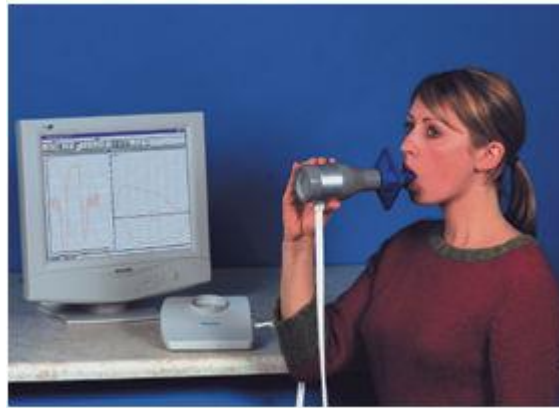
- FEV1 3.47
(81% pred)
- FVC 4.32
(92% pred)
- FEV1/FVC 0.80
- RVC 5.12
- FEV1/RVC 0.68!!

Lung Function in Emphysema



NB. Emphysema has nothing to do with FEV1

Remember!!



A patient with a long smoking history and “normal” spirometry can have emphysema!!!

COPD in 2015: What's new



NOTHING

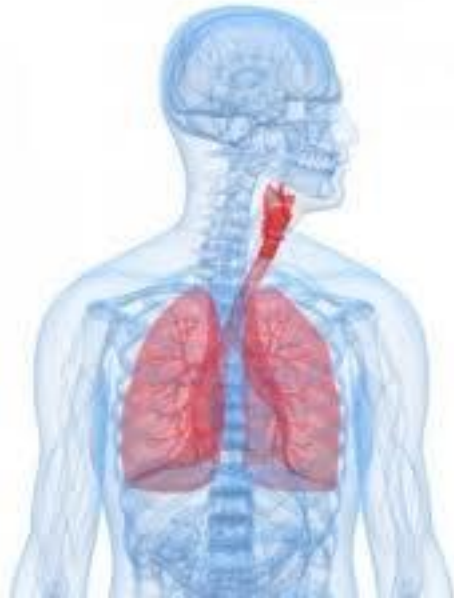
NOTHING



NOTHING

What's
new?







Source: HSE
<http://www.hse.gov.uk/copd/>

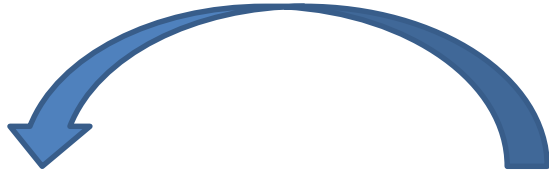
- In total, 50% of patients with COPD are under 65 years of age
- Aging is only partly to blame for the growing COPD burden
 - smoking is still the most significant risk factor
- The occurrence of COPD is increasing in younger age groups, particularly in women

Age (years)	Prevalence (%)
45–54	22
55–64	28
Total below 65	50 %
65–74	29
>75	21





Pulmonary Rehabilitation



Make available to all appropriate people,

including those recently hospitalised for an acute exacerbation

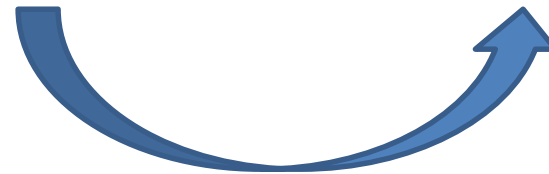
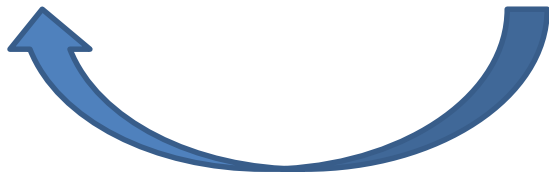
Tailor multi-component, multidisciplinary interventions to individual patient's needs

Pulmonary rehabilitation

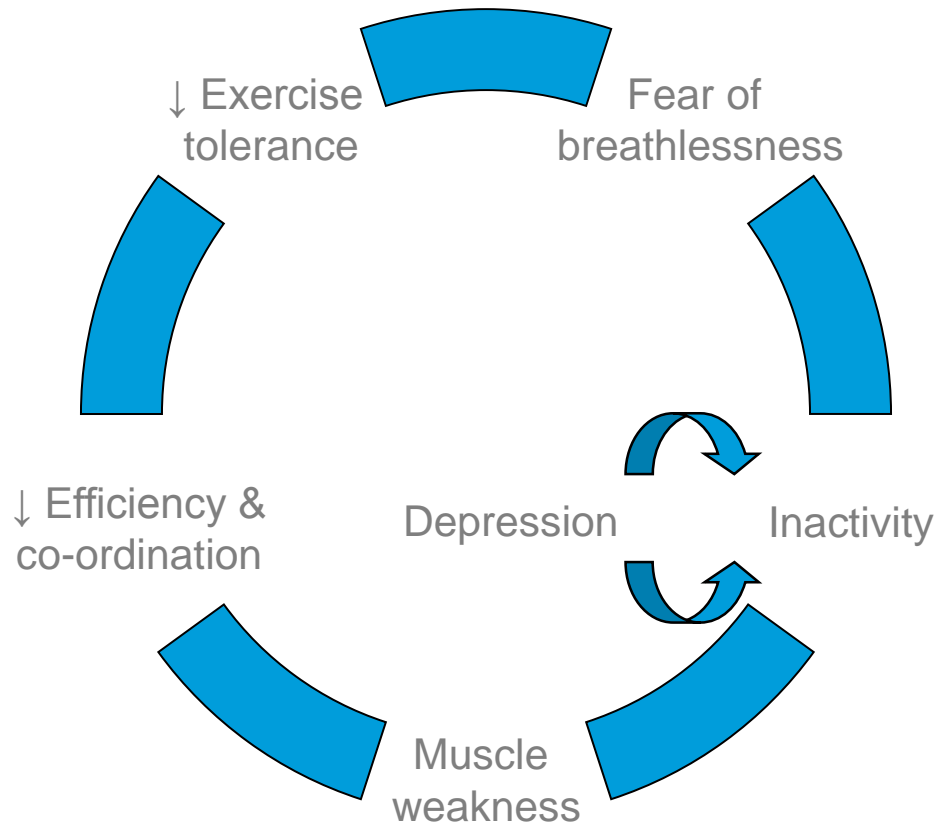
An individually tailored multidisciplinary programme of care to optimise patients' physical and social performance and autonomy

Hold at times that suit patients, and in buildings with good access

Offer to all patients who consider themselves functionally disabled by COPD



The Cycle of Inactivity



Evidence for Pulmonary Rehabilitation

Setting:

- Community based
- Hospital based

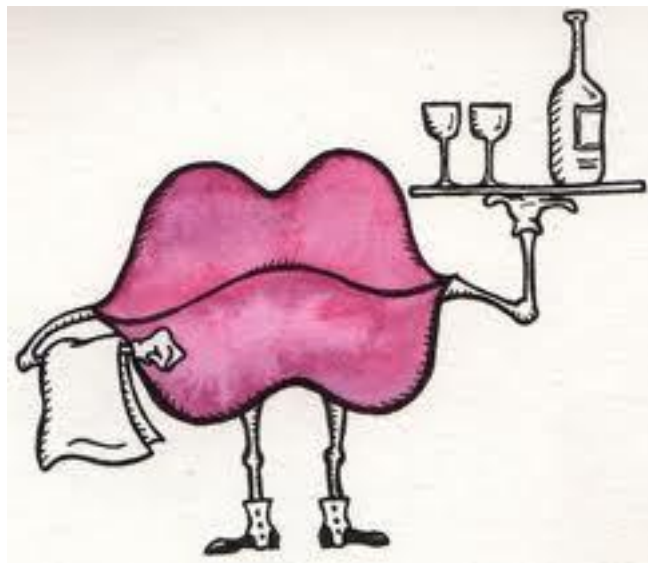
} Both run by a specialist team

Long-term effects on healthcare resources:

- Reduced bed day usage¹
- Change in frequency of primary care consultations
- Anxiety and depression in COPD respond better to pulmonary rehabilitation than drugs

Pulmonary rehabilitation immediately post acute exacerbation:³

- Safe
- Improvements in exercise capacity and health status at three months
- Shown to reduce hospital admissions, readmissions and mortality



"What do you think . . . should we get started on that motivation research or not?"

The Past



“I’ve been smoking 20 cigs a day for over 40 years. There’s not much point in me stopping now is there?”

The Present



“It’s never too late to stop actually. Let me tell you about all the good things that can happen. It’s really important that you stop smoking.”

The Present?



“I’m too breathless to exercise these days. Can you really see me doing all those exercise classes. I’m too old to Zumba!”

The Future?



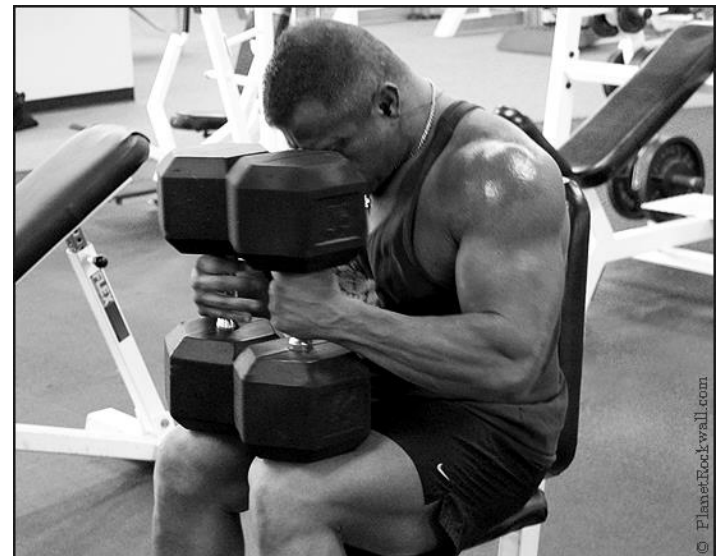
“You know, exercise is really one of the best treatments for your breathing problems. Let me tell you about it.”



PR is not just for
Naturally “fit people”

It’s for everyone!!!!

Watch this.....

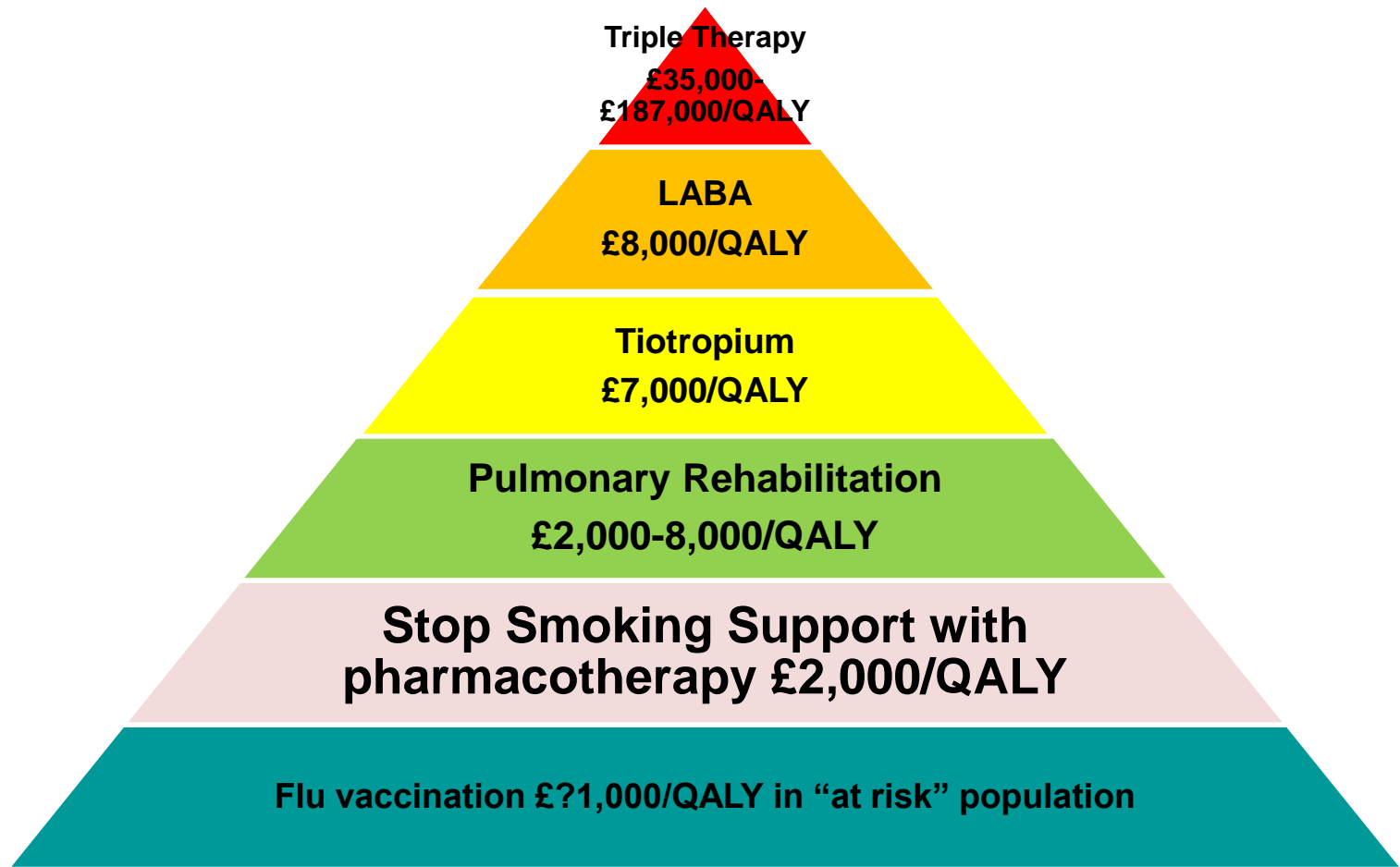


Watch This



The most cost effective treatment for COPD!

The London COPD 'Value' Pyramid (cost per QALY)



Inhaled Therapy.....





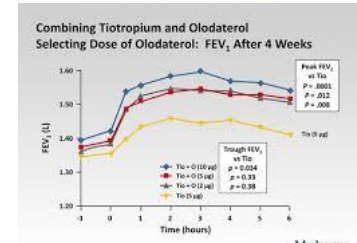
"I'll have an ounce of prevention."







Long-Acting Bronchodilators





An algorithm for COPD management?

Make the diagnosis!!!

Smoking Cessation

Pulmonary Rehabilitation/Exercise Promotion

SABA PRN

Assess the symptoms

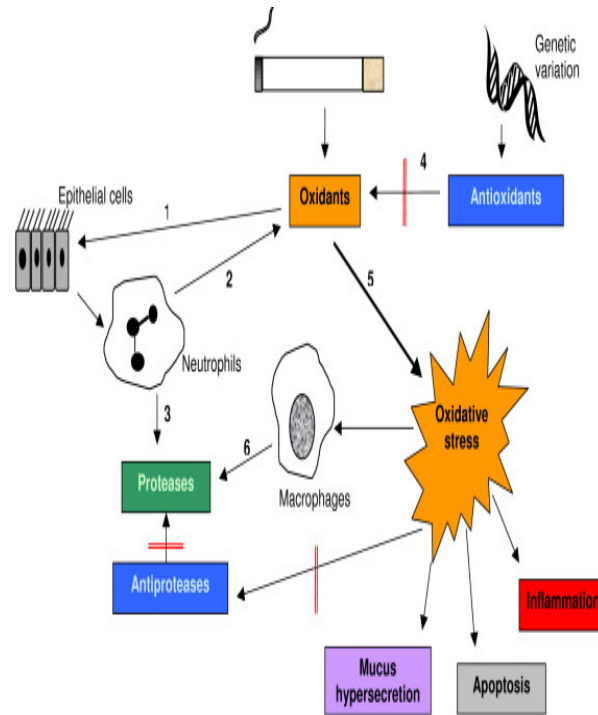
Exacerbation Frequency

Increasing Severity.....

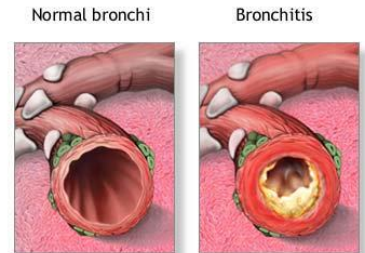
Chronic Obstructive Pulmonary Disease (COPD)



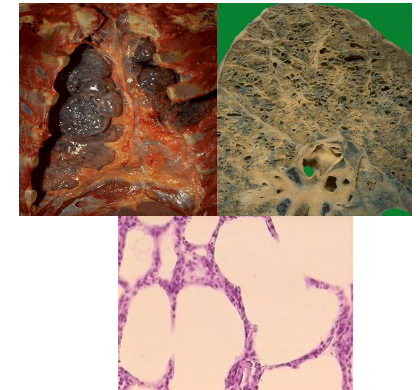
It's not just about smoking



It's also about inflammation



ADAM

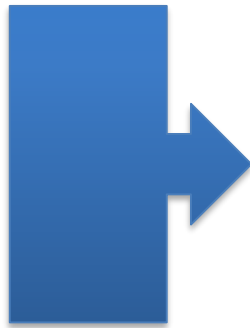


It's about "phenotyping"

“Think COPD”



“I think you’ve got a chest infection”

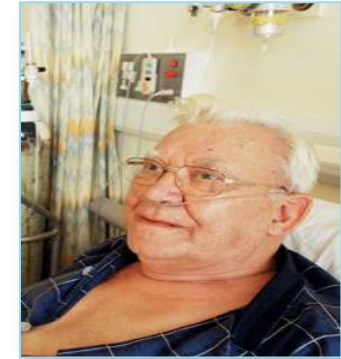
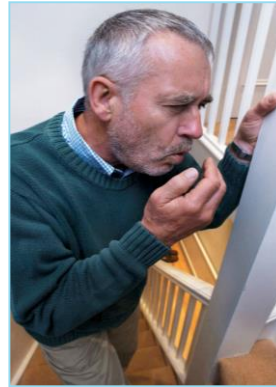


“When was the last one?”

“How many pack years ?”

“Is this airway inflammation too?”

Chronic Obstructive Pulmonary Disease: Diagnosis, Symptoms, Exacerbations



FEV1/FVC ratio < 0.7

FEV1 % predicted

>80%	Mild
50-80%	Mod
30-49%	Severe
<30%	Very Severe

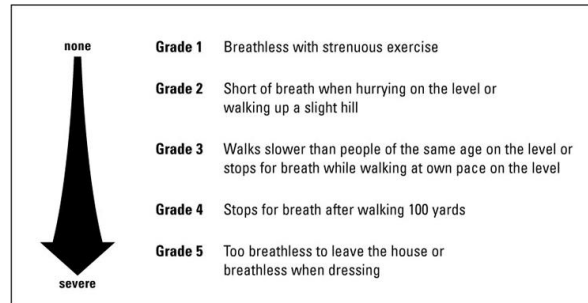



Figure 4. The Medical Research Council dyspnea scale.²⁶



A graphic featuring two plumes of white smoke rising against a black background. The smoke is wispy and billowing, suggesting a fire or a source of smoke.

COPD Symptoms?
Learn how to prevent flare ups

The COPD Exacerbation.....

Table 4. Factors to consider when deciding where to manage exacerbations

	Treat at home?	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 disease and insulin-dependent diabetes)	No	Yes
SaO ₂ < 90%	No	Yes
Changes on chest X-ray	No	Present
Arterial pH level	≥ 7.35	< 7.35
Arterial PaO ₂	≥ 7 kPa	< 7 kPa

An algorithm for COPD management?

Make the diagnosis!!! Smoking Cessation
Pulmonary Rehabilitation/
Exercise Promotion
SABA PRN

Assess the symptoms

LAMA, LABA, Both

Exacerbation Frequency

Inhaled Steroid/LABA combinations

Increasing Severity.....


What else?

COPD Self Management Plans



RESEARCH

Glasgow supported self-management trial (GSuST) for patients with moderate to severe COPD: randomised controlled trial

 OPEN ACCESS

C E Bucknall *consultant respiratory physician*¹, G Miller *research fellow*¹, S M Lloyd *biostatistician*², J Cleland *professor of medical education*³, S McCluskey *senior research nurse*¹, M Cotton *consultant respiratory physician*¹, R D Stevenson *consultant respiratory physician*¹, P Cotton *professor of learning and teaching*⁴, A McConnachie *deputy director*²

¹Department of Respiratory Medicine, Glasgow Royal Infirmary, Glasgow G4 0SF, UK; ²Robertson Centre for Biostatistics, University of Glasgow, Glasgow; ³Division of Medical and Dental Education, School of Medicine, University of Aberdeen, Aberdeen, UK; ⁴Undergraduate Medical School, University of Glasgow

Box 1: Diary card assessment of symptoms

Breathing (1=better than usual, 2=normal/usual, 3=worse than usual, 4=much worse than usual)

Colour of sputum (using chart with five grades of colour from 1=mucoid to 5=very purulent (deep green))

Amount of sputum produced (0=none, 1=some, up to teaspoonful, 2=a little (tablespoon), 3=moderate (eggcup or more), 4=a lot (cupful or more))

Type of sputum (1=watery, 2=sticky liquid, 3=semisolid, 4=solid)

Associated symptoms: general wellbeing (1-4), cough (0-3), chest pain (yes/no), cold or flu symptoms (yes/no)

Nocturnal symptoms (0=slept well, 1=woke once because of chest symptoms, 2=woke twice because of chest symptoms, 3=woke more than twice because of chest symptoms, 5=unable to sleep because of symptoms)

Box 2: Training programme monitoring strategy

Nurses were trained to deliver a structured self management programme in four fortnightly home visits, each lasting about 40 minutes. During home visits, the nurses discussed:

- The diagnosis of chronic obstructive pulmonary disease (COPD)
- The events that led up to the patient being admitted to hospital
- The nature of exacerbations of COPD, particularly the concept of infective and non-infective exacerbations
- How to recognise the early signs of a developing exacerbation
- How to manage infective and non-infective exacerbations in future, using the diary card to monitor levels of breathlessness and sputum colour
- How drugs work for the long term treatment and acute exacerbations.

During follow-up visits, in addition to reviewing the above categories, nurses reviewed the patient's experiences since last seen and used them as an opportunity to reinforce appropriate self management behaviour and influence unhelpful coping strategies. Information booklets about COPD (n=6) were left with the patient, together with a contact telephone number for advice during working hours.

Nurses without previous respiratory training completed three half day training sessions, with an equal emphasis on:

- Aspects of COPD pathophysiology and pharmacology
- Communications strategies designed to empower patients (including reinforcing effective strategies, active listening, responding to patients' concerns, maintaining interactive conversation).

In addition, observed home interviews took place with one trainer (JC) who used a checklist to record communication behaviours and provide feedback.²⁵

Quality assurance of home visits during study

At regular intervals throughout the study, the senior nurse (SL) did paired home visits with study nurses, observing interactions with patients and scoring these to provide feedback on performance.

Table 1| Baseline characteristics of participants. Values are numbers (percentages) unless stated otherwise

Characteristic	Intervention (n=232)	Control (n=232)	All (n=464)
Mean (SD) age (years)	70.0 (9.3)	68.3 (9.2)	69.1 (9.3)
Male sex	88 (38)	82 (35)	170 (37)
Mean (SD) % predicted FEV ₁	41.2 (13.4)	39.8 (13.8)	40.5 (13.6)
Living alone	92 (40)	96 (41)	188 (41)
Living in most deprived areas (deprivation categories 6 and 7)	143 (62)	140 (60)	283 (61)
Current smoker	90 (39)	91 (39)	181 (39)
Pulmonary rehabilitation attendance within 2 years of study entry	65 (28)	65 (28)	130 (28)
Previous hospital admission for COPD in 12 months before index admission	135 (58)	137 (59)	272 (59)
Mean (SD) No of self reported prednisolone courses in previous 12 months	4.26 (3.38)	4.46 (3.15)	4.36 (3.26)
Mean (SD) No of comorbidities	2.9 (2.0)	2.8 (1.8)	2.8 (1.9)
At least 1 comorbidity	215 (93)	211 (91)	426 (92)
Long term oxygen at home	16 (7)	18 (8)	34 (7)
Mean (SD) St George's respiratory questionnaire total score.	70.5 (16.7)	69.7 (16.1)	70.1 (16.4)
Mean (SD) COPD self efficacy score	68.2 (27.5)	69.8 (25.5)	69.0 (26.5)
Mean (SD) hospital anxiety and depression scale anxiety score.	10.0 (4.5)	9.3 (4.6)	9.7 (4.6)
Mean (SD) hospital anxiety and depression scale depression score.	8.5 (3.9)	8.3 (4.1)	8.4 (4.0)

COPD=chronic obstructive pulmonary disease; FEV₁=forced expiratory volume in 1 second.

Table 2 | Primary and secondary* outcomes

End point (at 12 months)	Intervention (n=232)	Control (n=232)	Treatment effect† (95% CI)	P value
No (%) COPD admission or COPD death	111 (48)	108 (47)	1.05 (0.80 to 1.38)	0.725
No (%) COPD deaths	23 (10)	16 (7)	1.36 (0.71 to 2.61)	0.354
No (%) deaths (all causes)	30 (13)	22 (9)	1.35 (0.77 to 2.38)	0.297
Mean (SD) SGRQ symptom score	-6.01 (20.85) (n=116)	-4.16 (22.52) (n=90)	-2.17 (-7.80 to 3.46)	0.448
Mean (SD) SGRQ activity score	1.44 (13.27) (n=91)	0.95 (11.05) (n=69)	0.80 (-2.58 to 4.18)	0.641
Mean (SD) SGRQ impacts score	-3.16 (17.12) (n=78)	4.23 (15.51) (n=63)	-6.89 (-12.40 to -1.39)	0.015
Mean (SD) SGRQ total score	-2.99 (12.56) (n=69)	1.38 (11.33) (n=53)	-4.52 (-9.07 to 0.04)	0.052
No (%) with 4 point improvement in SGRQ total score	30/69 (43)	18/53 (34)	1.71 (0.75 to 3.89) (OR)	0.206
Mean (SD) CSES total score	-1.73 (34.04) (n=119)	-5.55 (33.72) (n=94)	2.65 (-5.85 to 11.14)	0.540
Mean (SD) HADS anxiety score	-0.37 (3.77) (n=104)	0.93 (3.29) (n=82)	-1.06 (-2.08 to -0.03)	0.044
Mean (SD) HADS depression score	0.54 (3.26) (n=109)	0.75 (2.78) (n=84)	-0.27 (-1.13 to 0.59)	0.538
Mean (SD) EQ-5D (area under curve)	132.8 (95.5) (n=107)	139.8 (100.3) (n=75)	-6.9 (-36.1 to 22.4)	0.644

COPD=chronic obstructive pulmonary disease; CSES=COPD self efficacy score; EQ-5D=EuroQol 5D; HADS=hospital anxiety and depression scale; SGRQ=St George's respiratory questionnaire.

*Numbers of paired datasets shown for each element.

†Mean differences or hazard ratios.

Table 3| Comparison of baseline characteristics of “successful self managers” and others in intervention group. Values are numbers (percentages) unless stated otherwise

Characteristic	Successful self managers (n=75)	Others (n=105)	All cases completing 12 months in intervention group (n=180)
Mean (SD) age (years)*	67.3 (8.6)	71.2 (9.1)	69.5 (9.1)
Male sex	32 (43)	40 (38)	72 (40)
Mean (SD) % predicted FEV ₁	42.6 (13.5)	40.9 (13.0)	41.6 (13.2)
Living alone*	20 (27)	48 (46)	68 (38)

Living in n categories
Current sn
Pulmonary of study er
Hospital a entry
Mean (SD) previous y
Mean (SD)

Table 4| Predictors of successful self management

Predictor	Odds ratio for success* (95% CI)	P value
Increasing age (years)	0.95 (0.91 to 0.99)	0.012
Living alone	0.39 (0.19 to 0.80)	0.010

*Odds ratio <1 indicates lesser likelihood of success.

Mean (SD) CSES total score*	68.3 (24.0) (n=65)	72.7 (30.2) (n=87)	70.8 (27.7) (n=152)
Mean (SD) HADS anxiety score	10.0 (4.5) (n=62)	9.5 (4.4) (n=73)	9.7 (4.5) (n=135)
Mean (SD) HADS depression score	8.7 (3.5) (n=61)	7.9 (4.1) (n=79)	8.2 (3.9) (n=140)

COPD=chronic obstructive pulmonary disease; CSES=COPD self efficacy score; FEV₁=forced expiratory volume in 1 second; HADS=hospital anxiety and depression scale; SGRQ=St George's respiratory questionnaire.

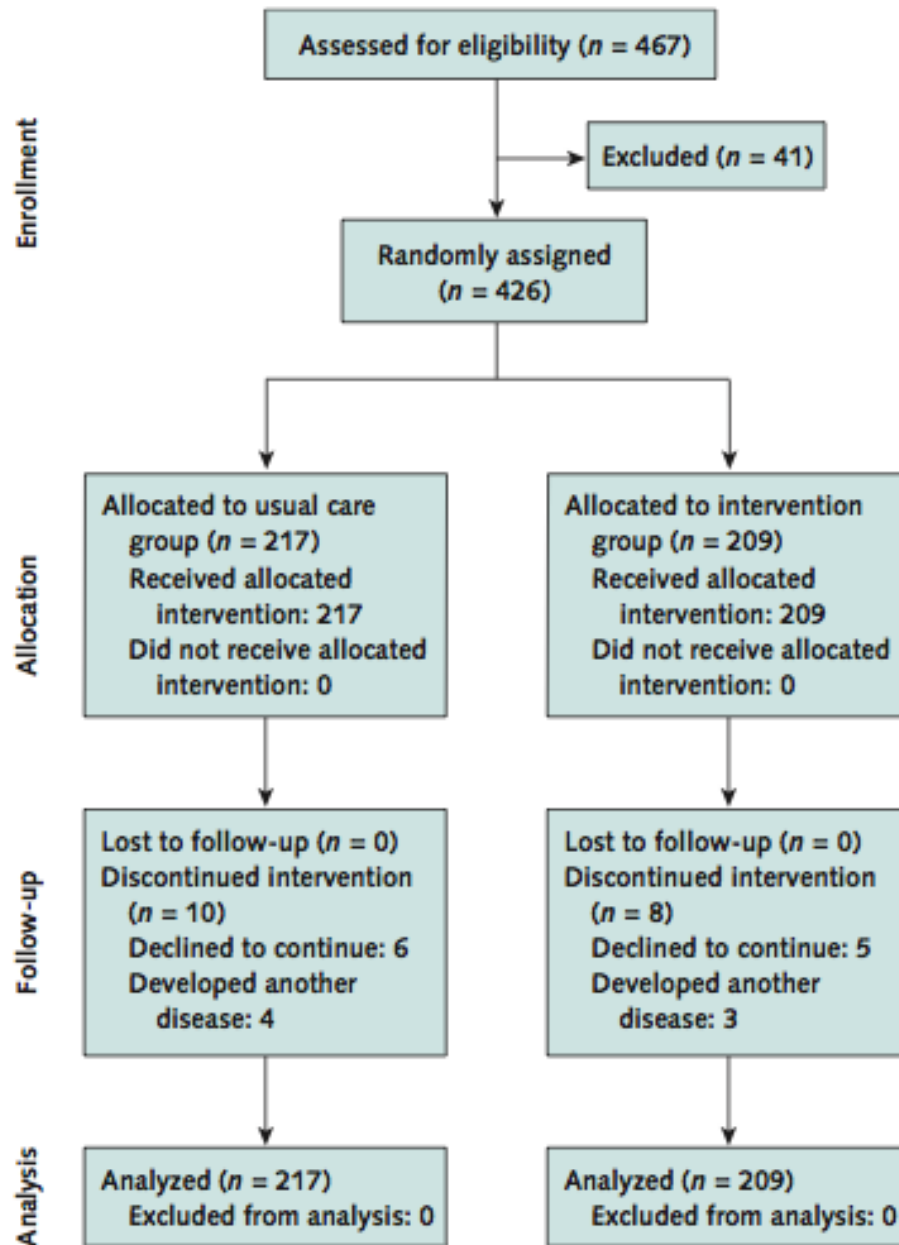
*Significant difference (P<0.05).

A Comprehensive Care Management Program to Prevent Chronic Obstructive Pulmonary Disease Hospitalizations

A Randomized, Controlled Trial

Vincent S. Fan, MD, MPH; J. Michael Gaziano, MD, MPH; Robert Lew, PhD; Jean Bourbeau, MD, MSc; Sandra G. Adams, MD, MS; Sarah Leatherman, MS; Soe Soe Thwin, PhD, MS; Grant D. Huang, PhD, MPH; Richard Robbins, MD; Peruvemba S. Sriram, MD; Amir Sharafkhaneh, MD; M. Jeffery Mador, MD; George Sarosi, MD; Ralph J. Panos, MD; Padmashri Rastogi, MD; Todd H. Wagner, PhD; Steven A. Mazzuca, PhD; Colleen Shannon, MPH; Cindy Colling, RPH, MS; Matthew H. Liang, MD, MPH; James K. Stoller, MD, MS; Louis Fiore, MD, MPH; and Dennis E. Niewoehner, MD

Figure 1. Study flow diagram.



NB: Primary outcome measure was time to first hospitalisation from COPD

90% power to reject null hypothesis was 960 patients

Table 1. Baseline Characteristics of Study Patients

Characteristic	Usual Care Group (n = 217)	Intervention Group (n = 209)
Mean age (SD), y	65.8 (8.2)	66.2 (8.4)
Male, n (%)	209 (96.3)	204 (97.6)
Race, n (%)*		
White	191 (88.0)	181 (86.6)
African American	20 (9.2)	24 (11.5)
American Indian	5 (2.3)	3 (1.4)
Asian	1 (0.5)	0
Hawaiian/Pacific Islander	0	1 (0.5)
Currently married, n (%)	114 (52.5)	91 (43.5)
Education, n (%)		
Less than high school	34 (15.7)	33 (15.8)
Completed high school	83 (38.2)	69 (33.0)
Some college/vocational school	73 (33.6)	78 (37.3)
Completed college or beyond	27 (12.4)	29 (13.9)
Current smoker, n (%)	59 (27.2)	59 (28.2)
Mean FEV ₁ (SD), L	1.21 (0.49)	1.20 (0.47)
Mean FEV ₁ (SD), % predicted	37.8 (14.5)	38.2 (14.3)
Mean FEV ₁ -FVC ratio (SD)	0.47 (0.12)	0.47 (0.12)
Past participation in a pulmonary rehabilitation program, n (%)	31 (14.3)	25 (12.0)
Health care use for COPD in past year		
Mean emergency/urgent care visits (SD), n	2.7 (2.2)	2.9 (2.3)
≥2 hospitalizations, n (%)	82 (37.8)	80 (38.3)

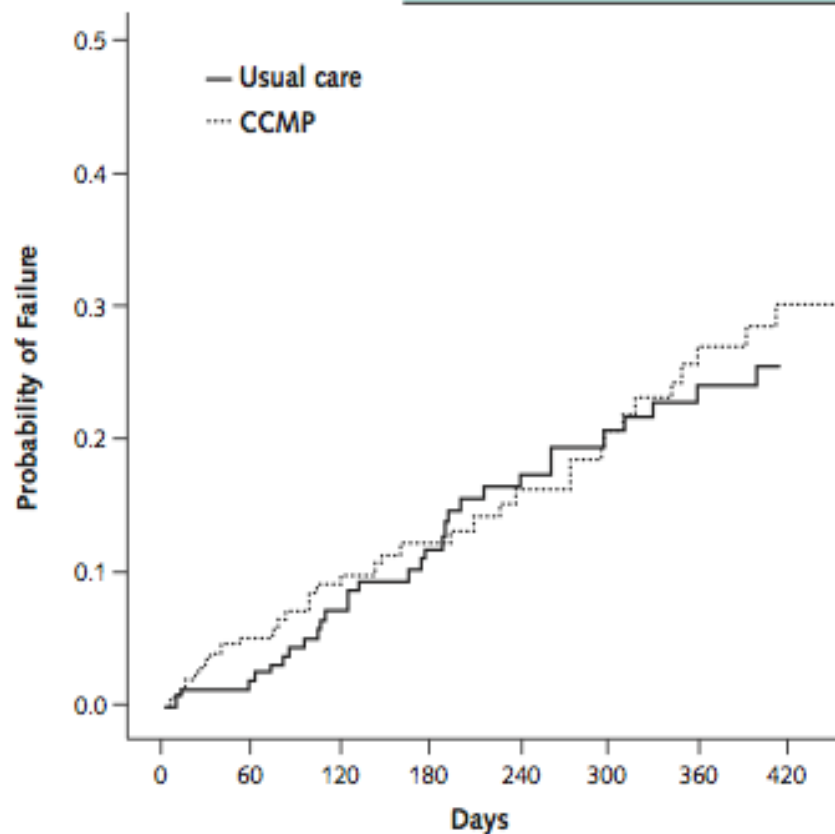
Medication use, n (%)

Short-acting inhaled β ₂ -agonist	184 (84.8)	188 (90.0)
Short-acting inhaled anticholinergic	88 (40.6)	81 (38.8)
Long-acting inhaled β ₂ -agonist	142 (65.4)	120 (57.4)
Long-acting inhaled anticholinergic	100 (46.1)	101 (48.3)
Inhaled corticosteroid	143 (65.9)	122 (58.4)
Home oxygen use, n (%)	136 (62.7)	120 (57.4)
Self-reported comorbid conditions, n (%)		
Ischemic heart disease	62 (28.6)	73 (34.9)
Congestive heart failure	32 (14.7)	42 (20.1)
Atrial fibrillation	15 (6.9)	18 (8.6)
Hypertension	131 (60.4)	129 (61.7)
Stroke	22 (10.1)	16 (7.7)
Peripheral vascular disease	15 (6.9)	24 (11.5)
Diabetes mellitus	61 (28.1)	52 (24.9)
Chronic renal failure	7 (3.2)	7 (3.4)
Cancer (other than skin cancer)	27 (12.4)	22 (10.5)
Depression	34 (15.7)	40 (19.1)

COPD = chronic obstructive pulmonary disease.

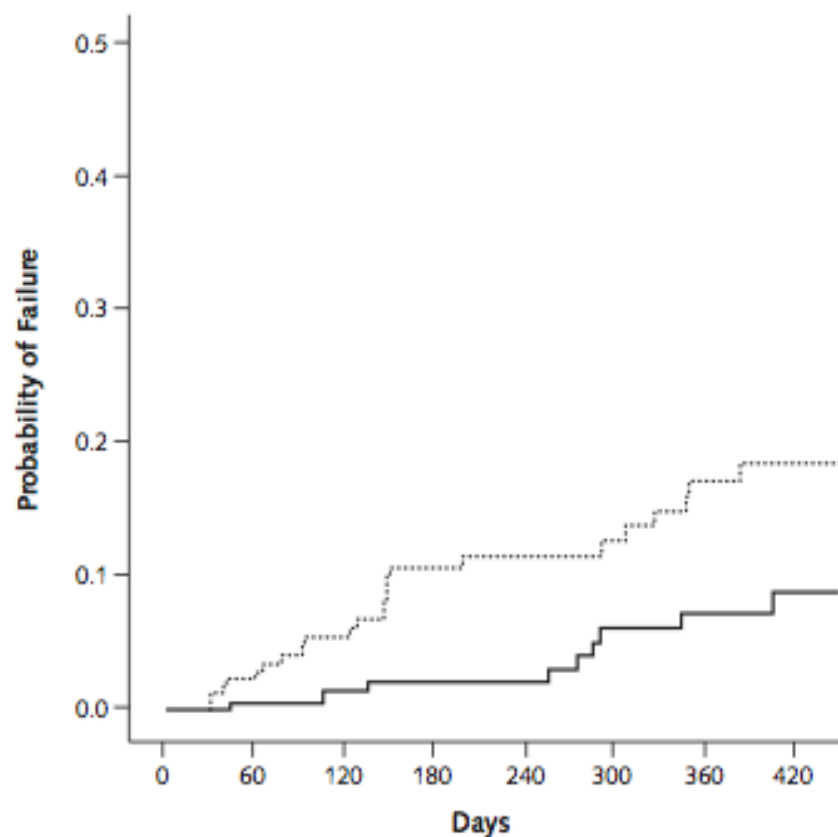
* The chi-square test compared 3 categories: "white," "African American," and "other."

Figure 2. Failure curves for chronic obstructive pulmonary disease hospitalization (top) and mortality (bottom) until termination of study intervention, according to study assignment.



Participants at risk, *n*

Usual care	209	164	126	100	77	69	51	43
CCMP	217	169	127	102	84	75	61	49



Participants at risk, *n*

Usual care	209	170	135	106	87	82	67	56
CCMP	217	172	138	113	98	90	77	60

CCMP = comprehensive care management program.

Table 2. Hazard Ratios for Hospitalization at Termination of Treatment, by Category of Disease

Reason for Hospitalization	Usual Care Group (n = 217)		Intervention Group (n = 209)		Hazard Ratio (95% CI)	P Value*
	Hospitalizations, n	P(hosp) (95% CI)	Hospitalizations, n	P(hosp) (95% CI)		
All categories	55	0.36 (0.28–0.46)	54	0.37 (0.28–0.46)	1.05 (0.72–1.53)	0.80
COPD-related	34	0.24 (0.17–0.37)	36	0.27 (0.20–0.37)	1.13 (0.70–1.80)	0.62
Exacerbation	26	0.18 (0.12–0.27)	27	0.19 (0.13–0.28)	1.11 (0.64–1.89)	0.72
Exacerbation/pneumonia	4	0.04 (0.01–0.10)	6	0.06 (0.02–0.13)	1.61 (0.45–5.69)	0.46
Pneumonia	4	0.04 (0.01–0.10)	3	0.04 (0.01–0.13)	0.80 (0.18–3.57)	0.77
Cardiovascular	8	0.04 (0.01–0.09)	15	0.11 (0.06–0.19)	2.06 (0.87–4.86)	0.099
Cardiac	5	0.03 (0.01–0.09)	11	0.08 (0.04–0.16)	2.43 (0.84–6.97)	0.101
Cerebrovascular	0	–	7	0.01 (0.00–0.08)	–	–
Peripheral vascular	3	0.01 (0.00–0.04)	3	0.02 (0.00–0.06)	1.09 (0.22–5.39)	0.92
Other	24	0.16 (0.11–0.24)	23	0.16 (0.10–0.24)	1.06 (0.59–1.86)	0.86

COPD = chronic obstructive pulmonary disease; P(hosp) = product-limit estimate of hospitalization at 1 y based on treating each category in isolation as opposed to competing risks.

* Log-rank test P value.

Table 3. Treatment of Exacerbations During the First Year of Follow-up

Mean Variable	Usual Care Group (n = 217)	Intervention Group (n = 209)	Rate Ratio (95% CI)	Difference (95% CI)	P Value
Exacerbations per person-year (SD)	4.3 (2.3)	4.4 (2.4)	1.03 (0.97 to 1.10)	–	0.32
Prednisone treatments per person-year (SD)	2.1 (2.2)	2.5 (2.1)	1.25 (1.05 to 1.48)	–	0.011
Antibiotic treatments per person-year (SD)	2.5 (2.1)	2.7 (2.1)	1.11 (0.97 to 1.27)	–	0.118
Days before receiving prednisone (SD)	7.7 (10.2)	6.4 (6.8)	–	–0.57 (–2.14 to 1.00)	0.48
Days before receiving antibiotic (SD)	6.8 (7.8)	7.0 (7.5)	–	0.17 (–1.34 to 1.68)	0.84

Table 4. Hazard Ratios for Mortality at Termination of Treatment, by Cause of Death

Reason for Death	Usual Care Group (n = 217)		Intervention Group (n = 209)		Hazard Ratio (95% CI)	P Value*
	Deaths, n	P(death) (95% CI)	Deaths, n	P(death) (95% CI)		
All reasons	10	0.07 (0.05–0.14)	28	0.17 (0.11–0.25)	3.00 (1.46–6.17)	0.003
COPD	3	0.03 (0.01–0.09)	10	0.07 (0.03–0.13)	3.60 (0.99–13.08)	0.053
Cardiovascular	2	0.01 (0.00–0.08)	3	0.01 (0.00–0.04)	1.62 (0.27–9.72)	0.60
Other†	2	0.01 (0.00–0.04)	7	0.06 (0.03–0.13)	3.78 (0.78–18.17)	0.096
Unknown	3	0.02 (0.01–0.08)	8	0.05 (0.02–0.11)	2.81 (0.74–10.56)	0.128

COPD = chronic obstructive pulmonary disease; P(death) = cause-specific product-limit estimate of death at 1 y based on treating each reason in isolation as opposed to competing risks.

* Log-rank test P value.

† Other causes of death in the usual care group were lung cancer (n = 1) and cholangitis (n = 1). Other causes of death in the intervention group were liver failure (n = 1), colitis (n = 2), diabetes mellitus (n = 2), and trauma (n = 2).



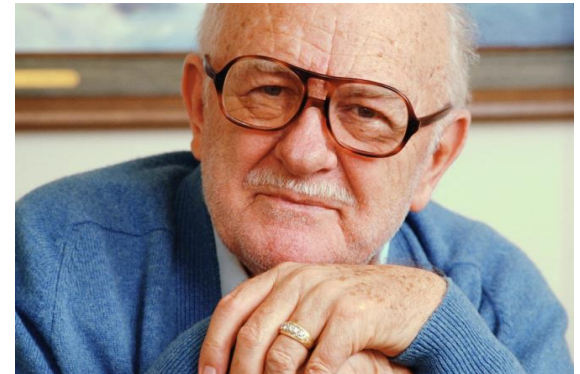
NOTHING

What's
new?



Brian.....

- Treatment:
- Tiotropium Bromide Handihaler 18 mcg
- Seretide 50/500 accuhaler 1puff bd
- Uniphyllin 200mg bd
- Azithromycin 250mg Mon/Wed/Fri
- Carbocisteine 750 mg bd
- Salbutamol nebs 5mg qds and PRN
- Oxygen 3l/min LTOT (20 hours/day)
- Simvastatin 40mg nocte
- Furosemide 40mg od
- Aspirin 75mg od



Original Article

Azithromycin for Prevention of Exacerbations of COPD

Richard K. Albert, M.D., John Connett, Ph.D., William C. Bailey, M.D., Richard Casaburi, M.D., Ph.D., J. Allen D. Cooper, Jr., M.D., Gerard J. Criner, M.D., Jeffrey L. Curtis, M.D., Mark T. Dransfield, M.D., MeiLan K. Han, M.D., Stephen C. Lazarus, M.D., Barry Make, M.D., Nathaniel Marchetti, M.D., Fernando J. Martinez, M.D., Nancy E. Madinger, M.D., Charlene McEvoy, M.D., M.P.H., Dennis E. Niewoehner, M.D., Janos Porsasz, M.D., Ph.D., Connie S. Price, M.D., John Reilly, M.D., Paul D. Scanlon, M.D., Frank C. Sciurba, M.D., Steven M. Scharf, M.D., Ph.D., George R. Washko, M.D., Prescott G. Woodruff, M.D., M.P.H., Nicholas R. Anthonisen, M.D., for the COPD Clinical Research Network

N Engl J Med
Volume 365(8):689-698
August 25, 2011

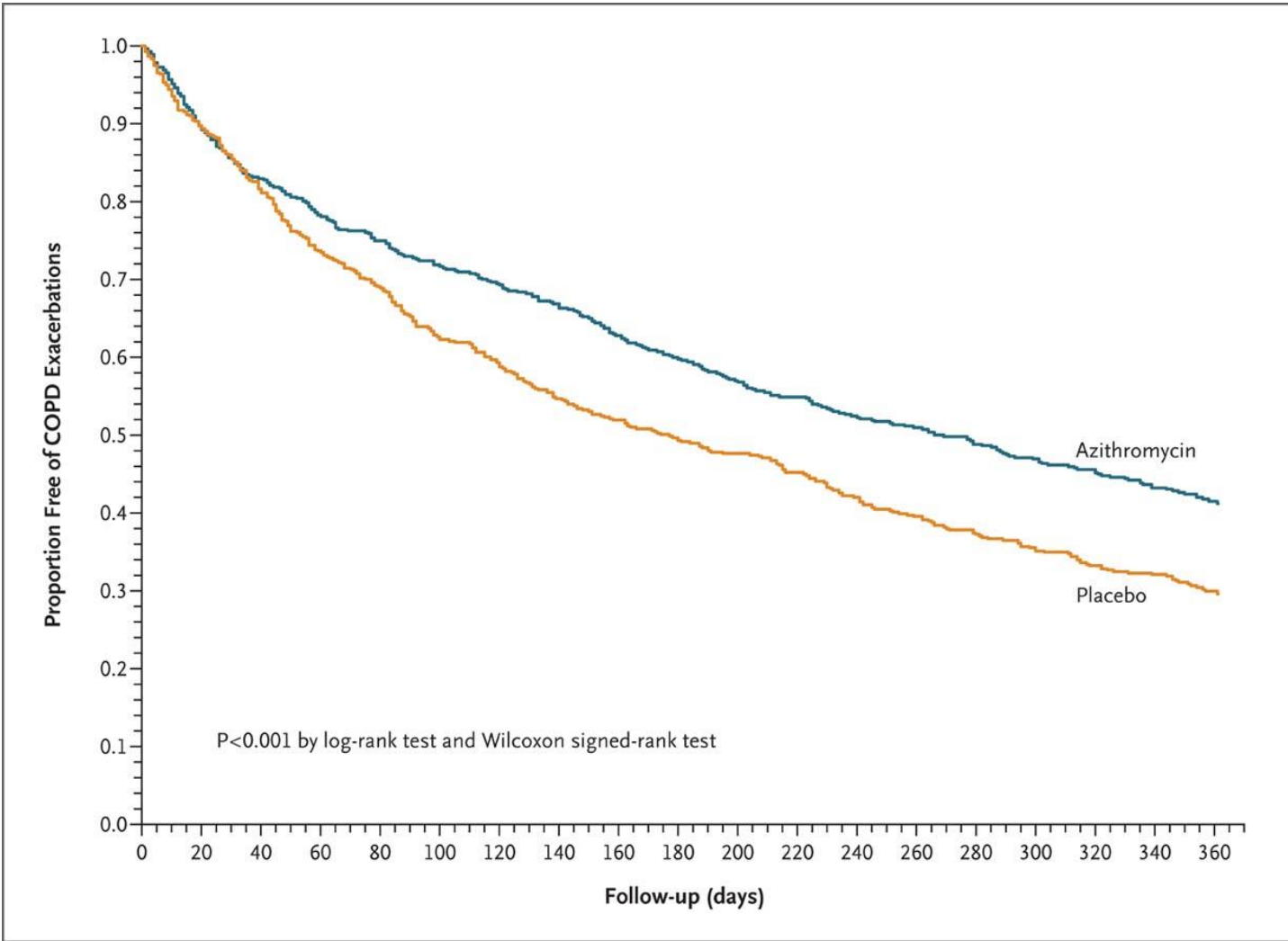


The NEW ENGLAND
JOURNAL of MEDICINE

Study Overview

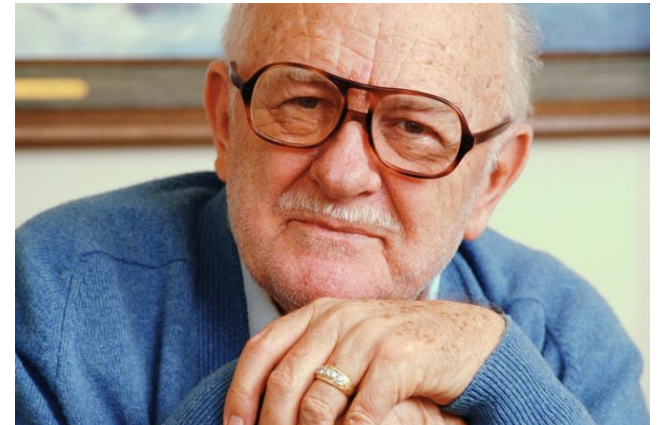
- Exacerbations of chronic obstructive pulmonary disease (COPD) are a source of substantial morbidity.
- In this randomized, controlled trial involving patients with moderately severe COPD, daily treatment with azithromycin for 1 year was associated with fewer exacerbations.





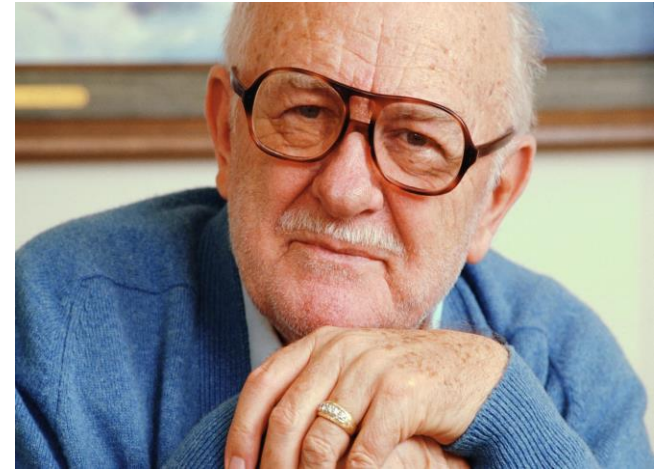
Brian.....

- Feels more breathless
- Uncertain about phlegm- always difficult to cough up
- No change in ankle oedema
- Feels exhausted
- Maybe more drowsy than normal
- Recently discharged from hospital OPD as on “maximal therapy”
- Other co-morbidities: IHD and PHT



Brian.....

- Resps 26/min
- Chest: expiratory wheeze and coarse crackles
- HS 1+2+0
- Ankles: swollen but not to knees
- BP 120/70
- Sats 88% on 3L nasal canulae
- Abdo: soft



Plan for Brian.....?

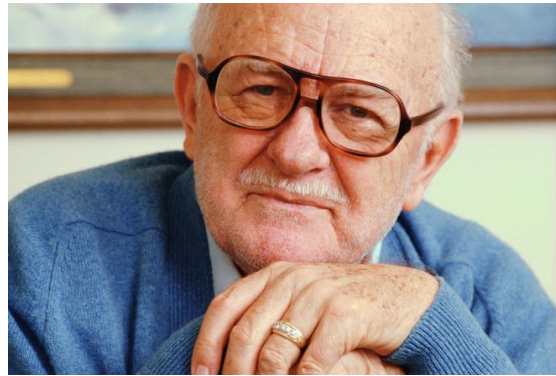
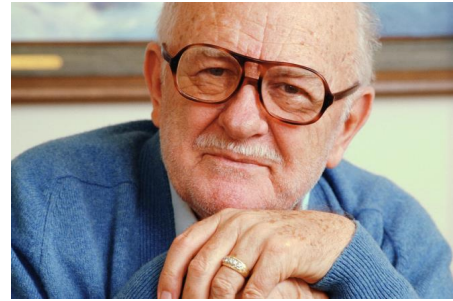


Table 4. Factors to consider when deciding where to manage exacerbations

	Treat at home?	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 disease and insulin-dependent diabetes)	No	Yes
SaO ₂ < 90%	No	Yes
Changes on chest X-ray	No	Present
Arterial pH level	≥ 7.35	< 7.35
Arterial PaO ₂	≥ 7 kPa	< 7 kPa

Brian.....



- “I am not going into hospital again”
- “Please- there must be something else you can do!”
- “If I were a dog you’d take me to the vets to be put down!”

Prognostic Indicator Guidance

to aid earlier identification of patients with advanced conditions, in the final months or years of life, as a means of pre-planning supportive care. Revised Version 4 July 08

Earlier identification of people nearing the end of their lives leads to better pre-planning and provision of care to support them in the final stages of life. This guidance document focuses on assessing factors indicating possible deterioration of patients nearing the end of their lives, so that care can be anticipated and given earlier, before crisis point is reached. It focuses on a better means of prediction of the need for pre-emptive support, rather than prediction of actual time remaining .

Three triggers for Supportive/ Palliative Care - to identify these patients we can use any combination of the following methods:

1. **The surprise question**, “Would you be surprised if this patient were to die in the next 6-12 months” - an intuitive question integrating co-morbidity, social and other factors. If you would not be surprised then what else might usefully be done to enable them to live well to the end of life and then to die as well as possible?
2. **Choice/ Need** - The patient with advanced disease makes a **choice** for comfort care only, not ‘curative’ treatment, or is in special **need** of supportive / palliative care.
3. **Clinical indicators** - Specific indicators of advanced disease for each of the three main end of life patient groups- cancer, organ failure, elderly frail/ dementia (see over)

Co-morbidities or other General Predictors of End Stage illness^{1/2}

Co-morbidity is increasingly the biggest predictive indicator of mortality and morbidity. Also-

- Weight loss - Greater than 10% weight loss over 6 months
- General physical decline
- Serum Albumin < 25 g/l
- Reducing performance status / ECOG/Karnofsky score (KPS) < 50%. Dependence in most activities of daily living(ADLs)

2.2 Chronic Obstructive Pulmonary Disease – COPD⁵

- Disease assessed to be severe e.g. (FEV1 <30%predicted – with caveats about quality of testing)
- Recurrent hospital admission (>3 admissions in 12 months for COPD exacerbations)
- Fulfils Long Term Oxygen Therapy Criteria
- MRC grade 4/5 – shortness of breath after 100 meters on the level or confined to house through breathlessness
- Signs and symptoms of right heart failure
- Combination of other factors e.g. anorexia, previous ITU/NIV/resistant organism, depression
- >6 weeks of systemic steroids for COPD in the preceding 12 months

What happens to him in an ambulance?



21% Oxygen



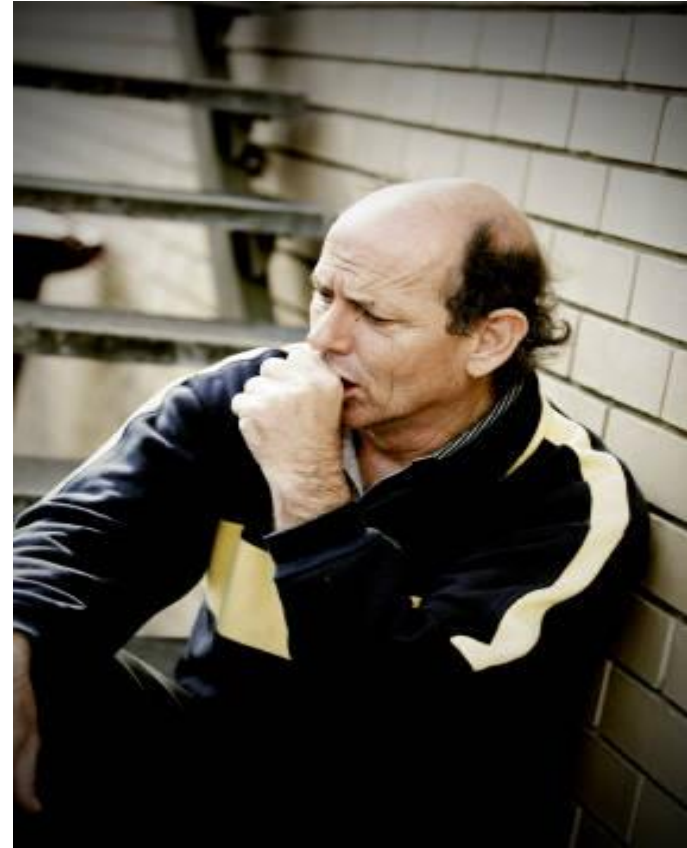
100% Oxygen

If you have a heart attack.....?



"I'll have an ounce of prevention."

Think about this.....



“Lung Attack”



secondary
Then [?] prevention may be easier...?



**1st line
therapy!!!**

And the correct question is.....

LABA LAMA IS

**“Why am I NOT prescribing
All three drug types?”**

COPD Self Management Plans



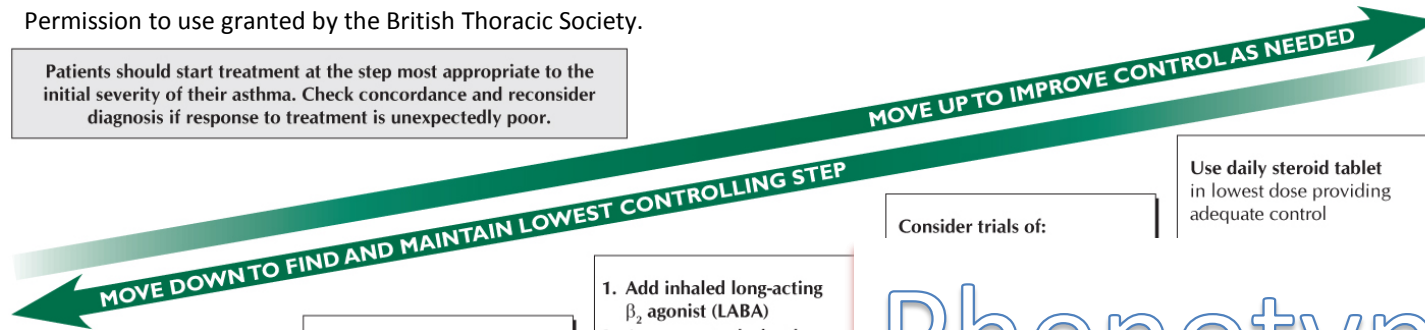
Asthma in 2015: What's new



Treatment for severe/difficult asthma?

Permission to use granted by the British Thoracic Society.

Patients should start treatment at the step most appropriate to the initial severity of their asthma. Check concordance and reconsider diagnosis if response to treatment is unexpectedly poor.



Use daily steroid tablet in lowest dose providing adequate control

Consider trials of:

1. Add inhaled long-acting β_2 agonist (LABA)
2. Assess control of asthma:
 - Good response to LABA - continue LABA
 - Benefit from LABA but control still inadequate - continue LABA and

Add inhaled steroid 200-800

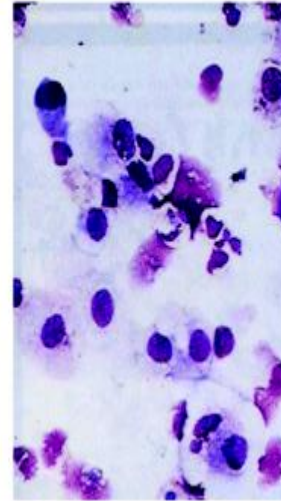
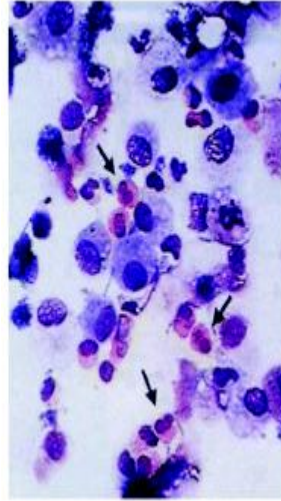
Generic Approach

Phenotypic Approach

Asthma Phenotypes

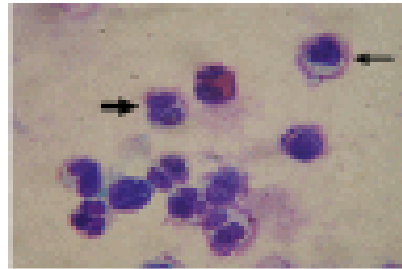
(a)

(b)



THE PRODUCTIVE
COUGH.COM

it's whatever comes up.



But.....

- 23 yr old male
- Chest Pain
 - Sharp
 - Sudden onset
 - pleuritic
- Usually well
- No other PMHx
- Social:
 - Teacher
 - Alcohol 15U per week
 - 5 cigs per day
- FHx: Nil of Note
- Systems review: NAD
- Well
- Apyrexial
- Chest Clear
- Sats 98% on air
- No chest wall tenderness

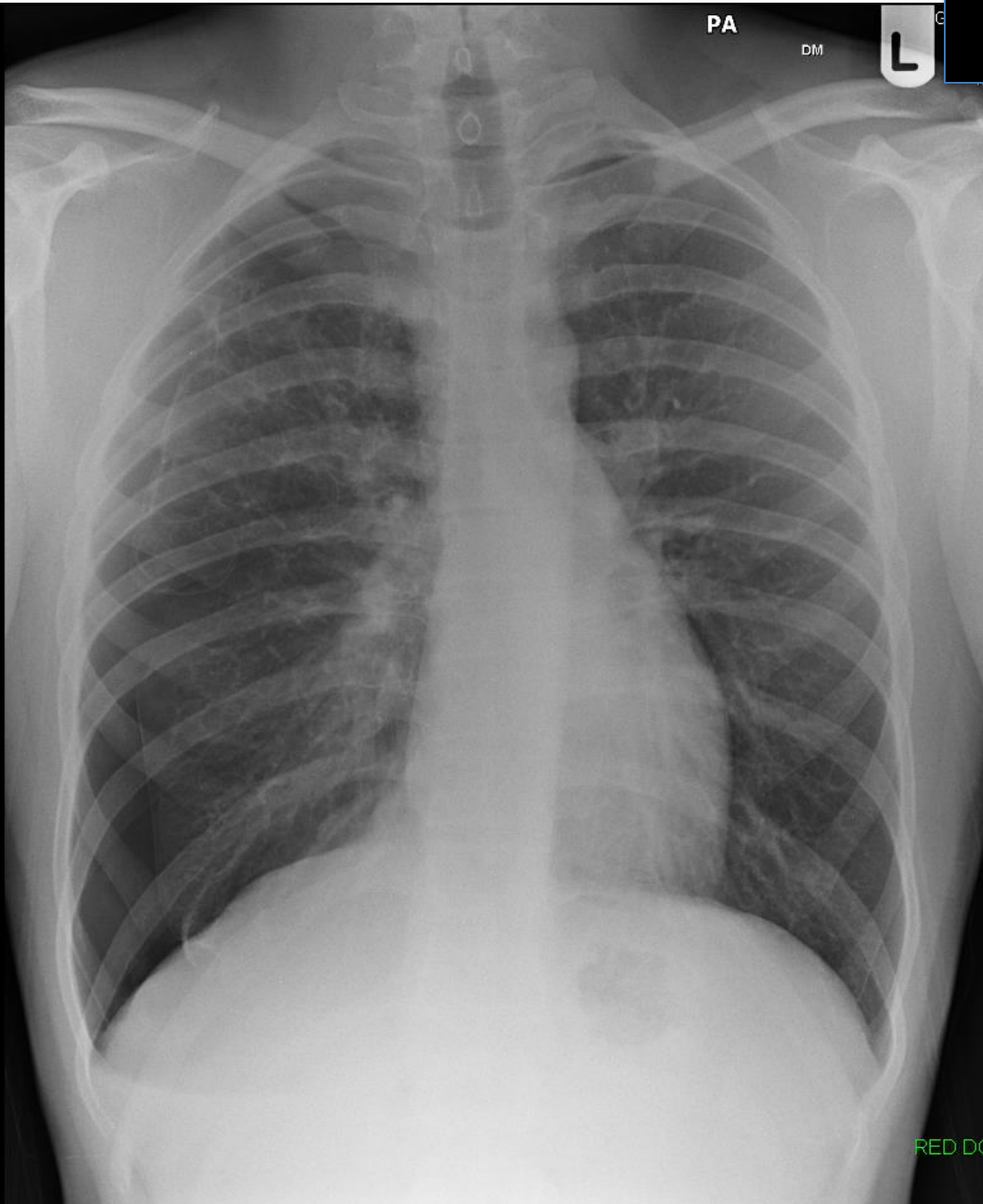
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PA

DM



2008



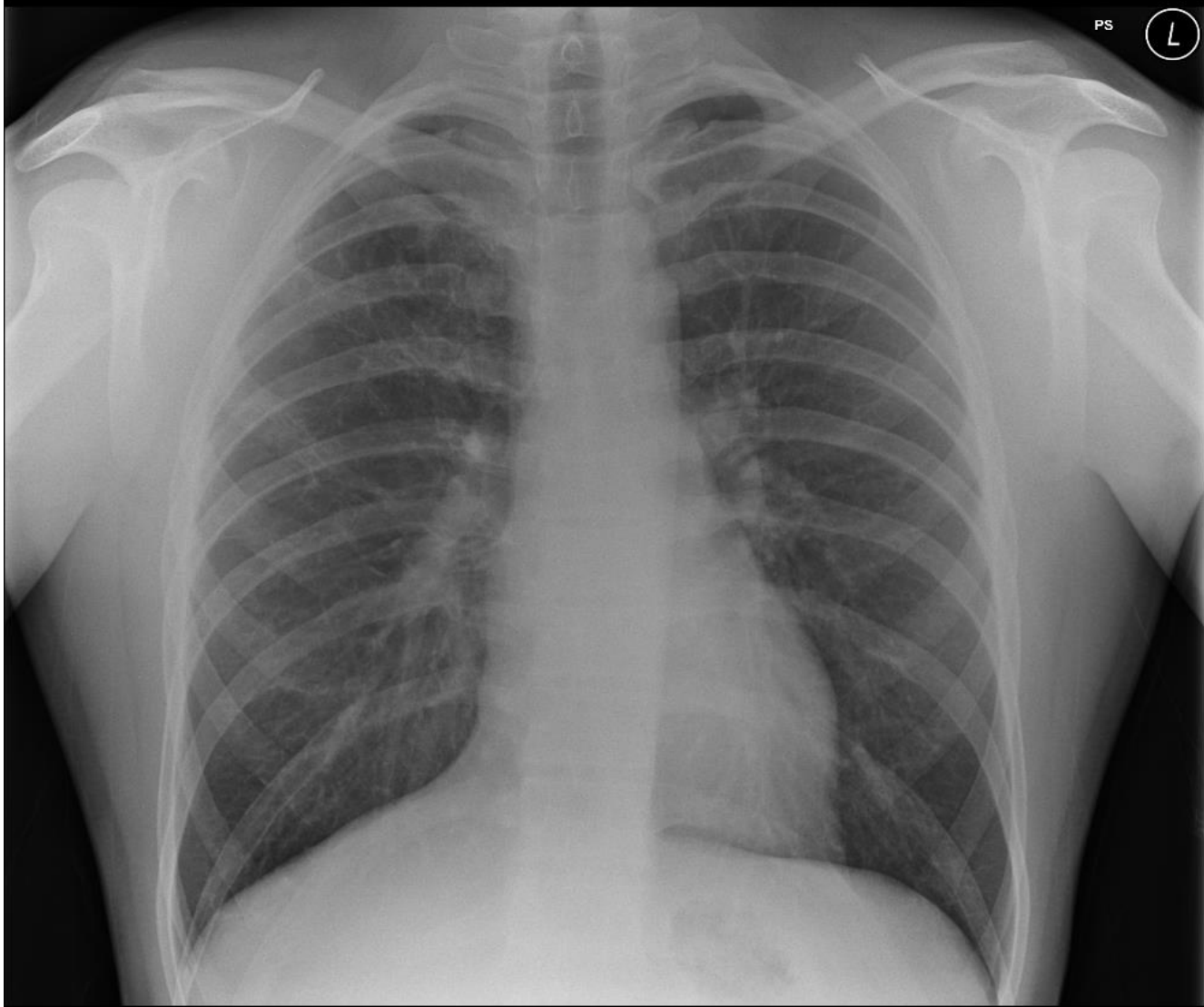
PA

RED DOT

C2048
W4096

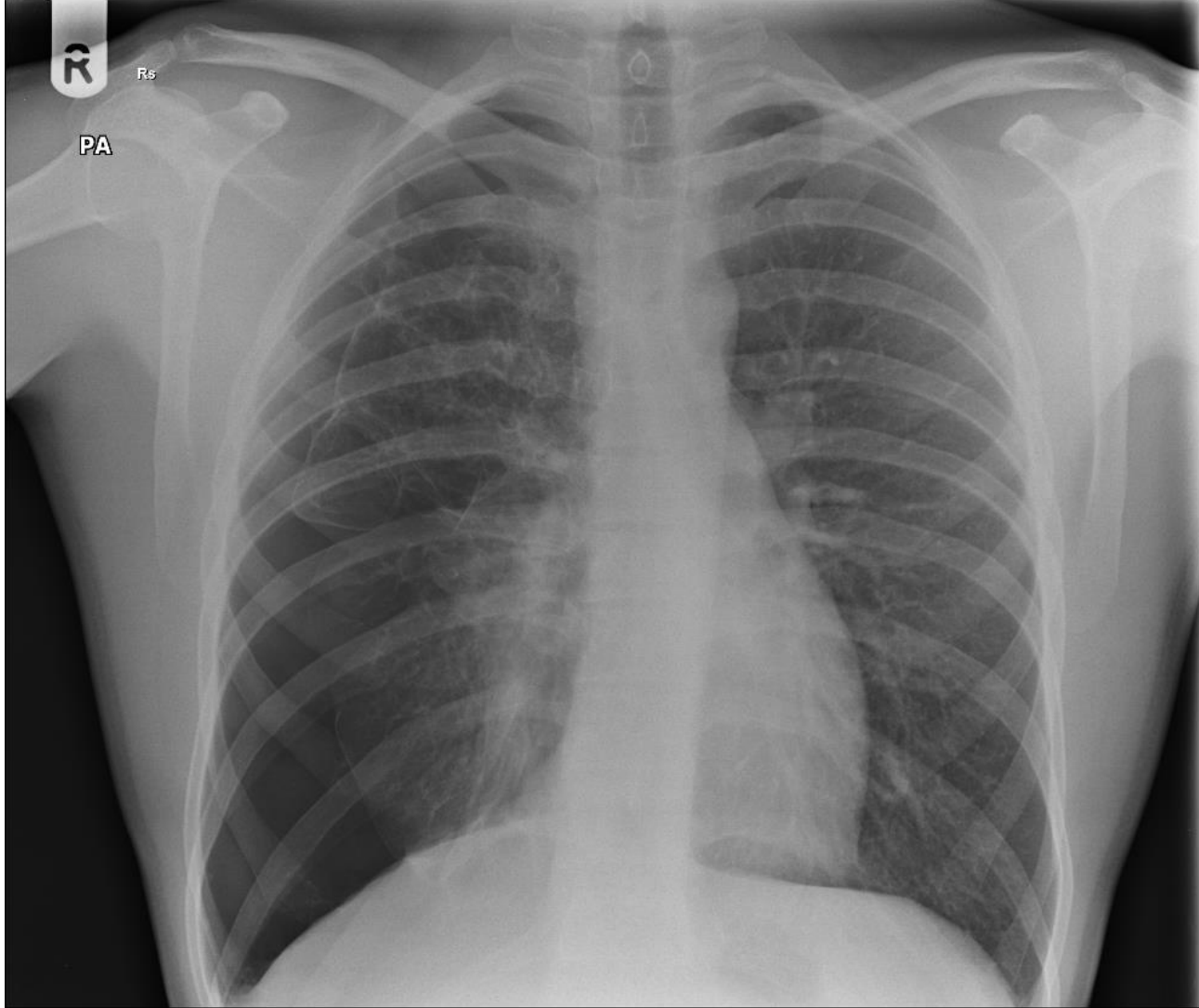
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PS



PA

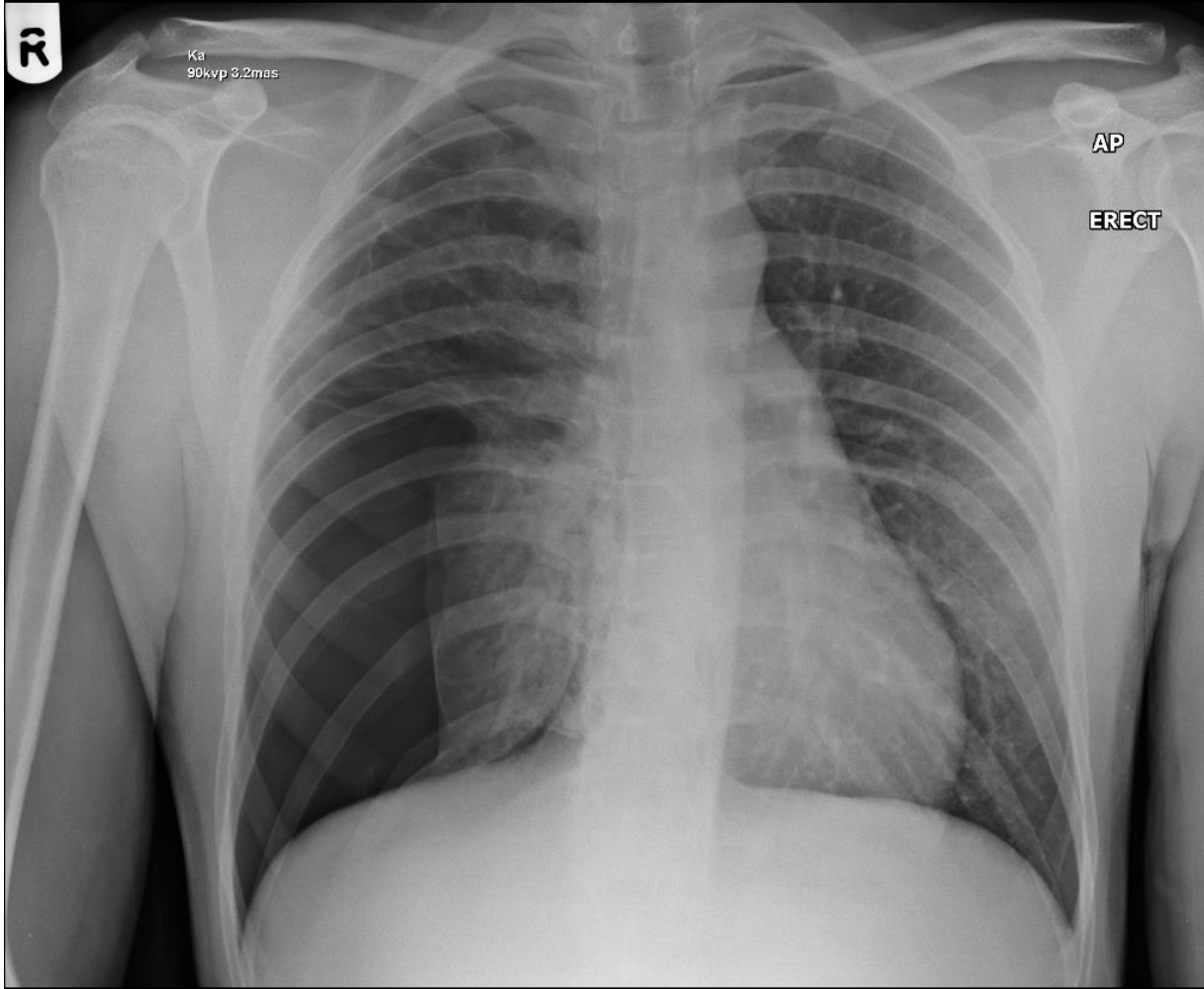
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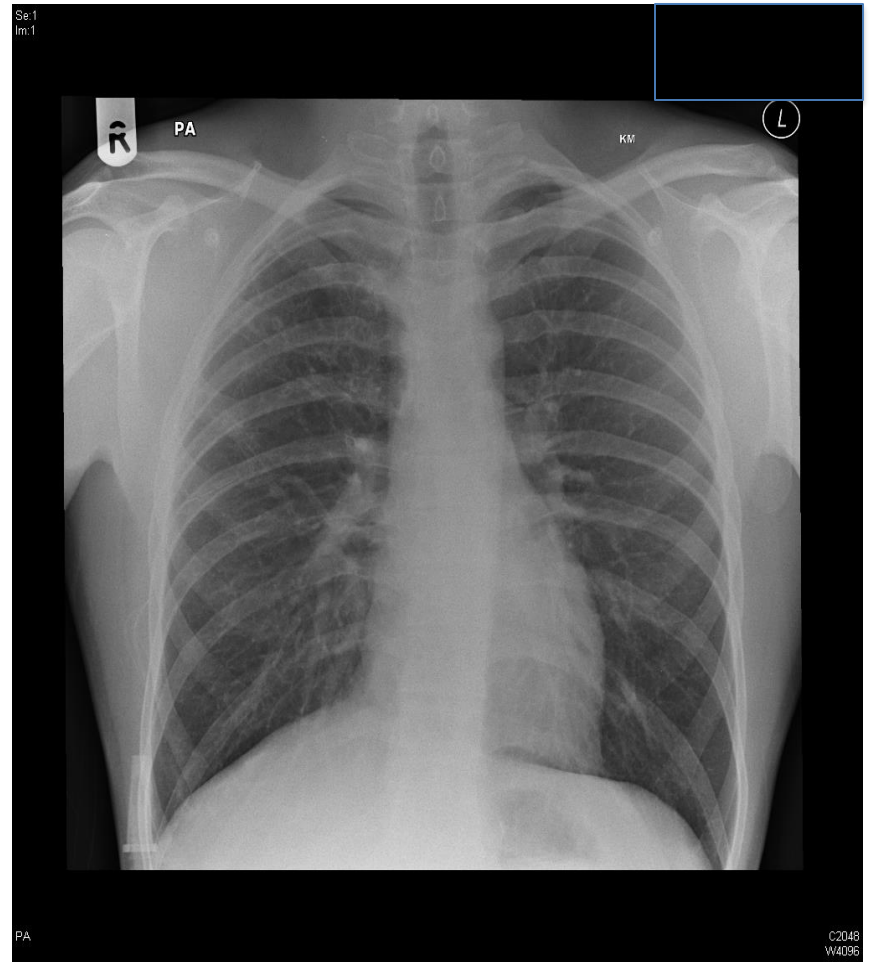


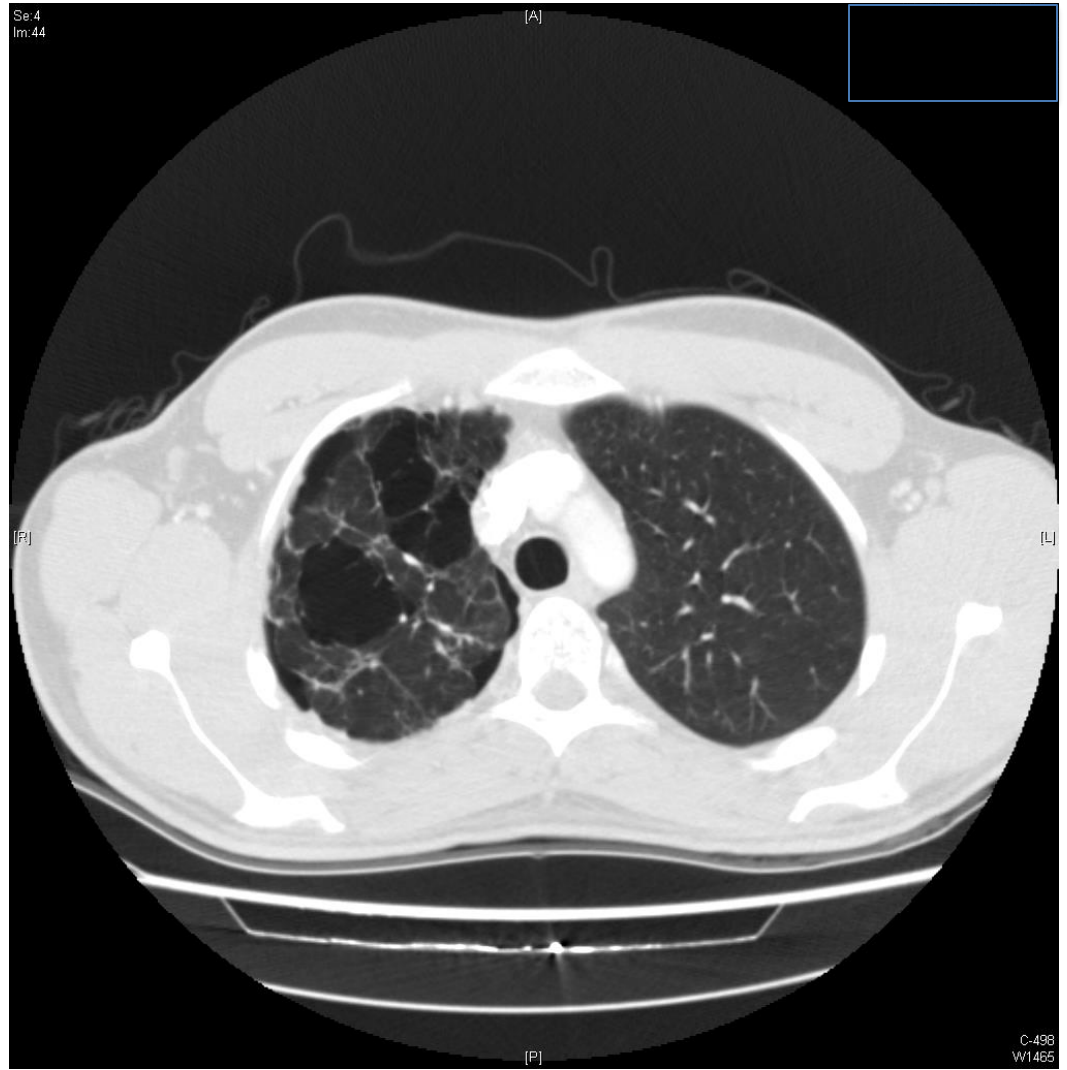
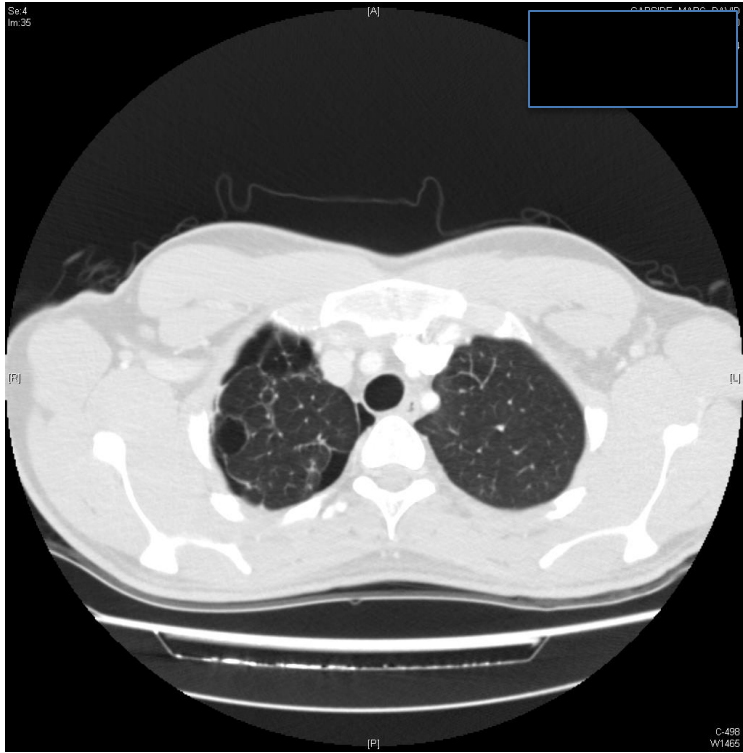
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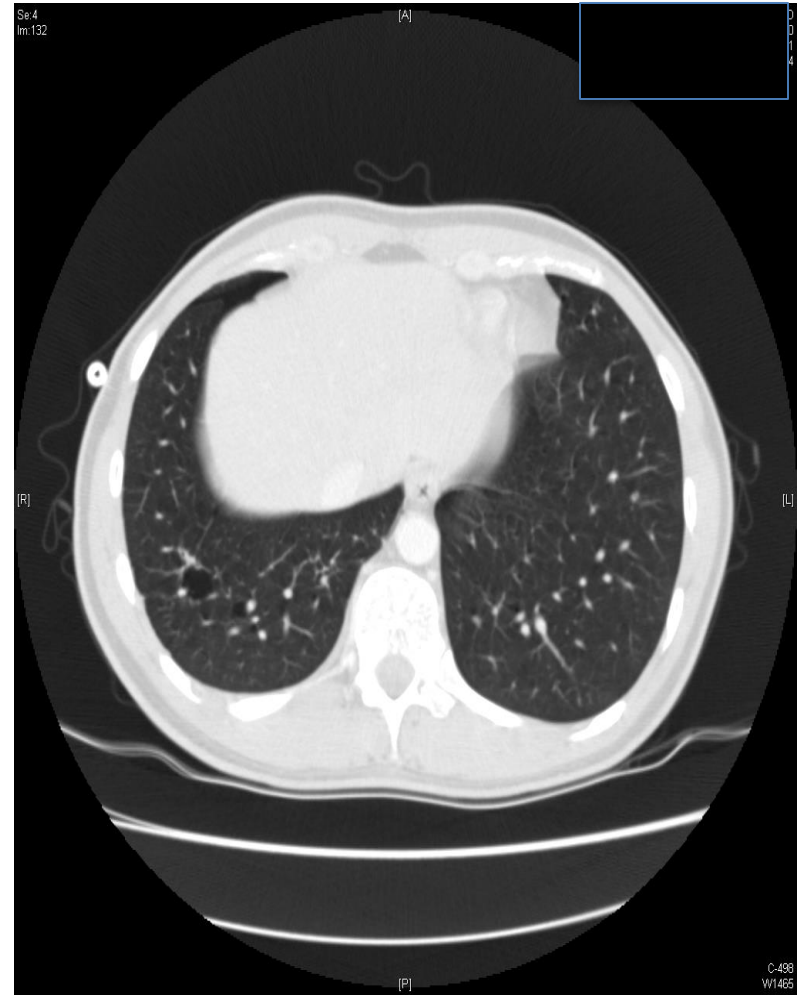
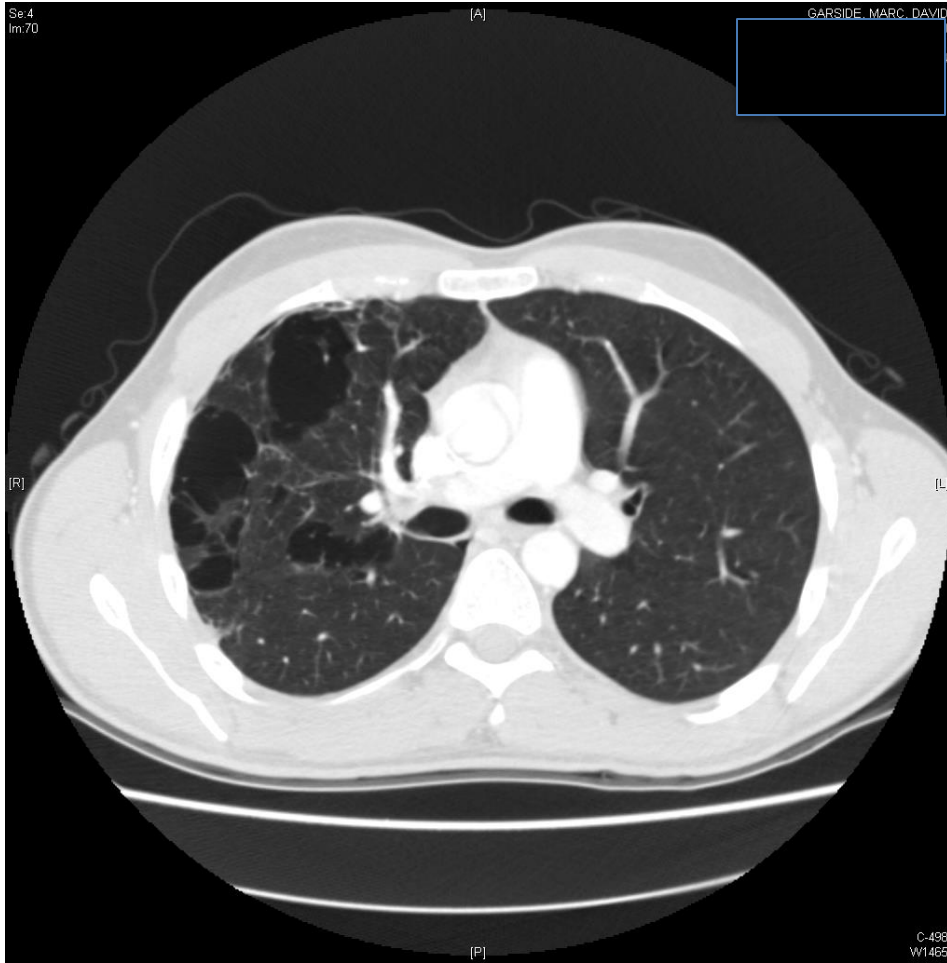


AP

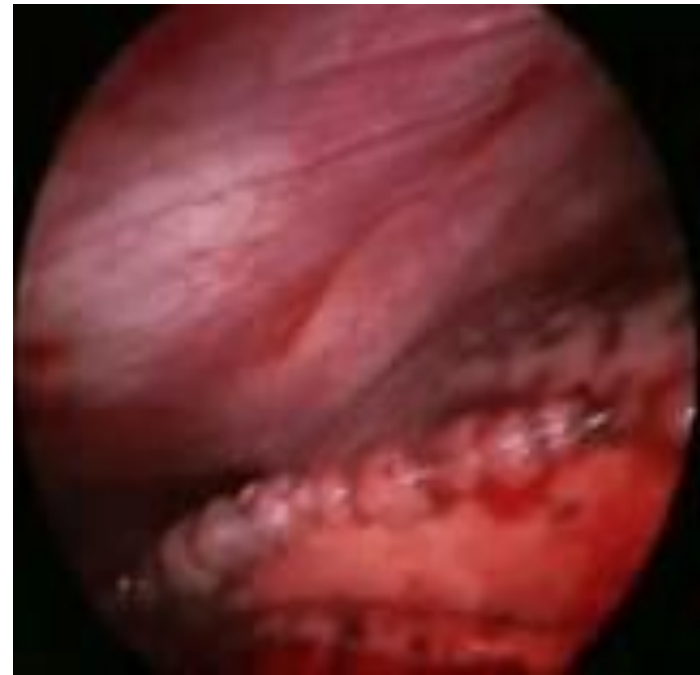
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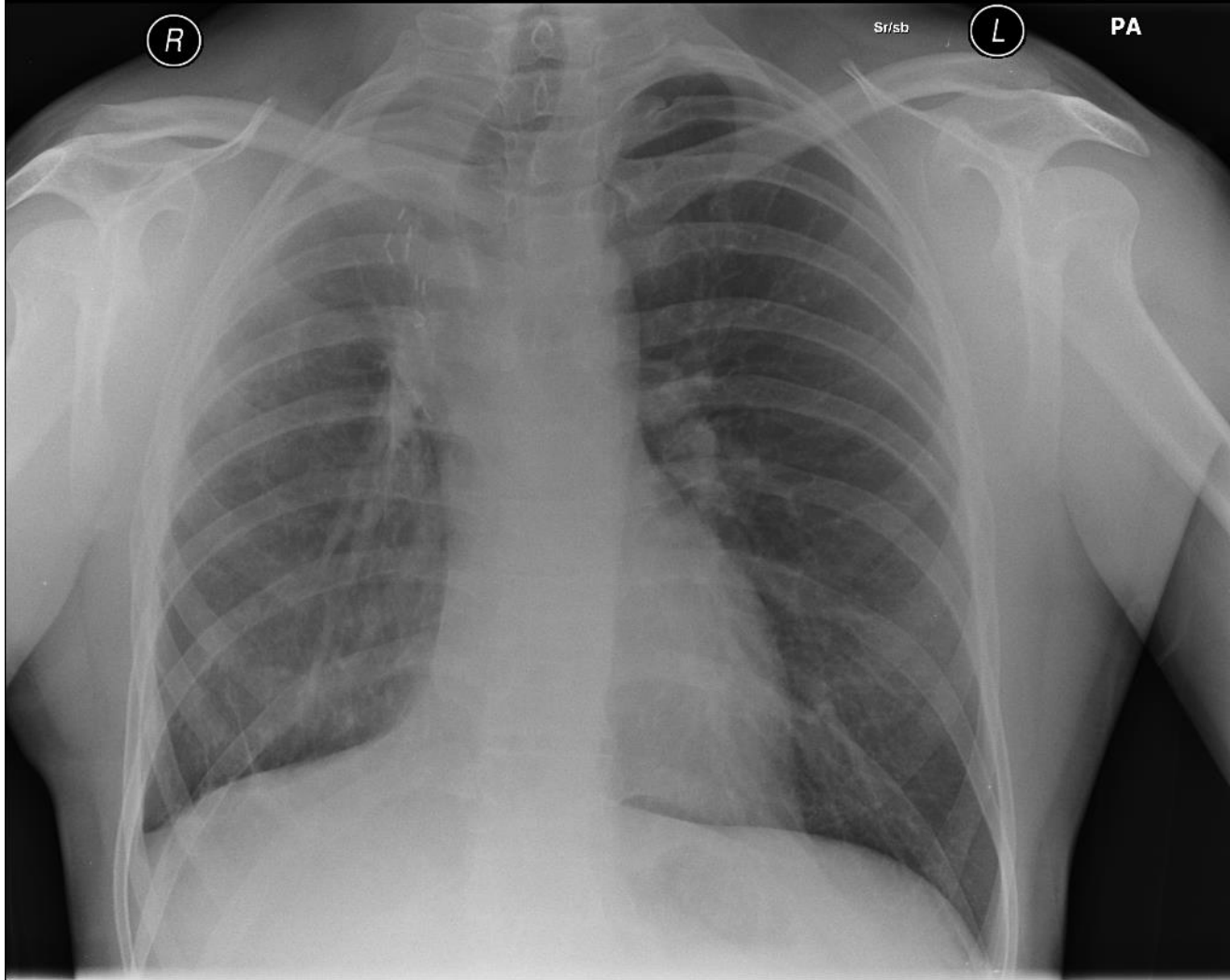




Ultimately.....



Se:1
Im:1



PA

C2048
W4096

What question did
we forget to ask him?





**BE CLEAR
ON CANCER**

**Been coughing for 3 weeks?
Tell your doctor.**

A persistent cough could be a sign of lung cancer.
Finding it early makes it more treatable.

“If you’ve had that **cough**
for 3 weeks, get down
to your doctor.

The sooner
the better.”

Carol Scudamore, now fit and well,
aged 66. From Coimbra.



**KEEP
CALM
AND
MAKE AN
APPOINTMENT
WITH YOUR GP**

UK Prevalence of Cannabis Smoking

- 8% of 11-15 year olds smoke cannabis

Smoking, Drinking and Drug Use Among Young People in England in 2010, NHS Information Centre for Health and Social Care
Social Survey of 7,296 secondary school pupils aged 11-15 in 246 schools

- 1 in 5 young adults say they have recently used drugs, mostly cannabis

Healthy Lives, Healthy People White Paper 2010

HOSB. Drug Misuse Declared. 2009/2010 **British Crime Survey**, England & Wales



- 1 in 3 tobacco smokers in an inner London hospital population also smoke cannabis*

- ✓ all groups in society
- ✓ have to ask not volunteered

*Restrick et al *ERJ* 2011; 776S

Comparisons of cannabis and tobacco smoking

1 joint cf 1 cigarette same weight

3 x carbon monoxide levels

5 x tar deposition

No filter, shorter butt length, higher temperature

Deeper inspiration, breath-hold, Valsalva at maximum breath-hold

0.4 g cannabis cf 1g tobacco per cigarette

Joint-year - 'one joint/day for 1 year'



UK Prevalence of Cannabis Smoking

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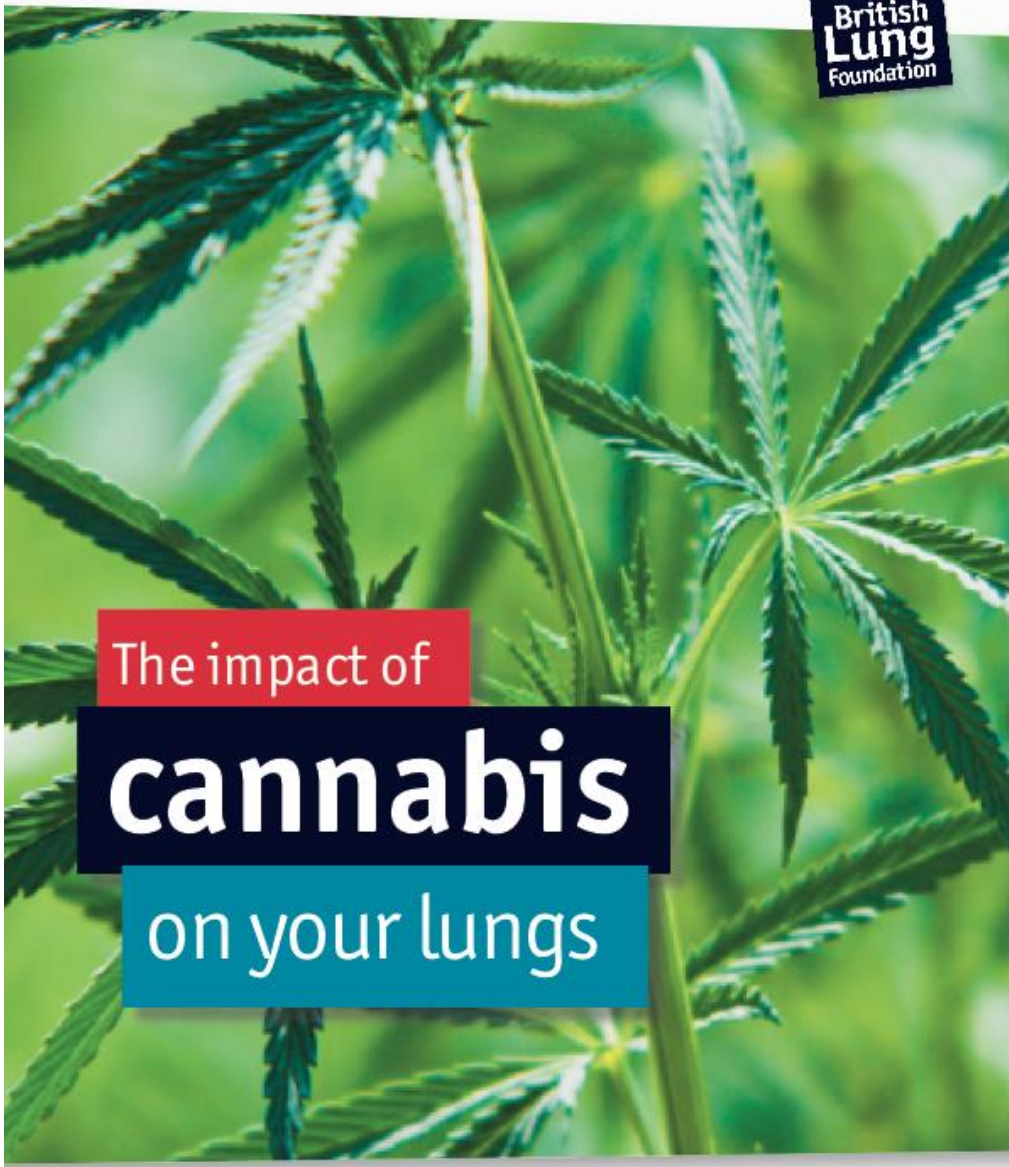
HOSB. Drug Misuse Declared. 2009/2010 **British Crime Survey**, England & Wales



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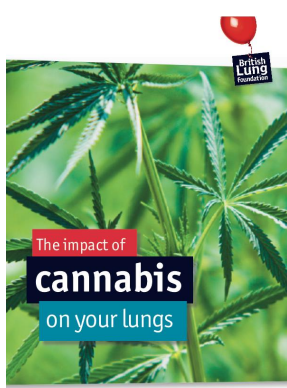


The impact of

cannabis

on your lungs

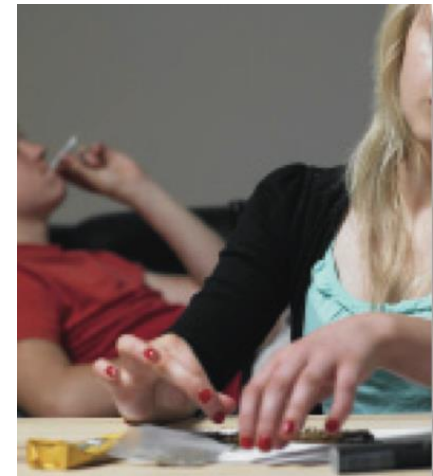
June 2012

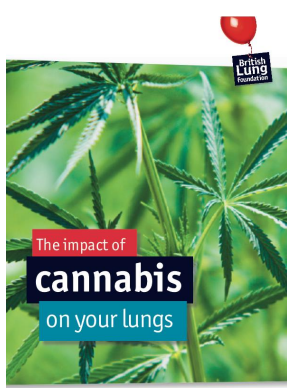


Around a third of adults in the UK have tried cannabis. Latest available figures, taken from the 2010/2011 *British Crime Survey of England and Wales*, suggest that 30.7 per cent of 16- to 59-year-olds have used cannabis in their lifetime. That figure rises to 34.5 per cent for 16- to 24-year-olds¹.

Cannabis was the most commonly used illegal drug among 16- to 59-year-olds in 2010-2011; one in 15 people said they had used it in the last year¹. That's around 2.2 million people in England and Wales.

Among young people, cannabis is still the most commonly used illicit drug. The same survey estimates that around one in six (17.1 per cent of) 16- to 24-year-olds used cannabis during 2010-2011¹. This is around 1.1 million young people in England and Wales.

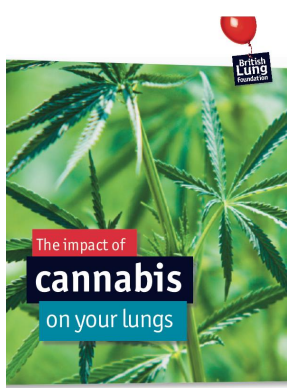




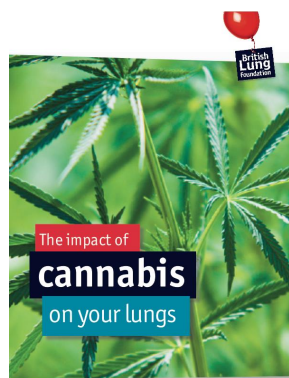
There are three main species of cannabis; *cannabis sativa*, *cannabis indica* and *cannabis ruderalis*. The plant is also known as hemp and it has historically been used in making rope and other fabrics.

As an illicit drug, you can get cannabis in several forms:

- As **marijuana**, also known as herbal cannabis. Marijuana is made up of the plant's dried leaves and female flower heads. 'Sinsemilla' (literally 'without seeds') is a highly potent, intensively cultivated version of domestically grown marijuana.
- As **hashish**, also known as cannabis resin. Hashish is made up of the resin the leaves and flower heads secrete, and often compressed into blocks. Cannabis resin can be mixed with other substances to increase its weight, thereby increasing profits.



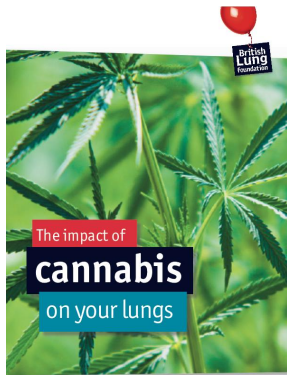
The potency of cannabis is measured according to its concentration of tetrahydrocannabinol (THC). THC is the main component responsible for the psychoactive properties of the plant, including its mood-altering effects or 'high'. There is THC in different concentrations in the stalks, leaves, flowers and seeds of the plant as well as in the resin secreted by the female plant.

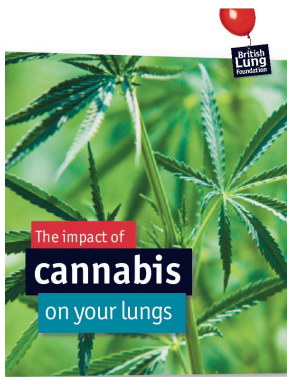


Previous studies have shown that with each puff, the components of cannabis smoke become more concentrated, meaning the joint gets stronger and stronger towards the end¹⁰. So, smoking fewer cannabis cigarettes down to a shorter butt length could mean taking in a greater number of smoke components than smoking the same amount of cannabis in more cigarettes smoked to a longer butt length¹⁰.

The active ingredients of cannabis plants and tobacco plants differ. Only cannabis has THC and only tobacco has nicotine. Otherwise, cannabis and tobacco smoke contain largely the same substances¹¹⁻¹³, including carbon monoxide, tar and carcinogens.

Hold smoke for
4 x longer





COPD

Ca Bronchus

Pneumothorax

Respiratory Infections

Take Home Messages.....?



- Routinely ask about illicit drug use
- Perform surveillance PFTs in patients on drug programmes?

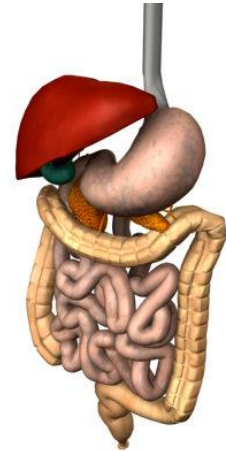
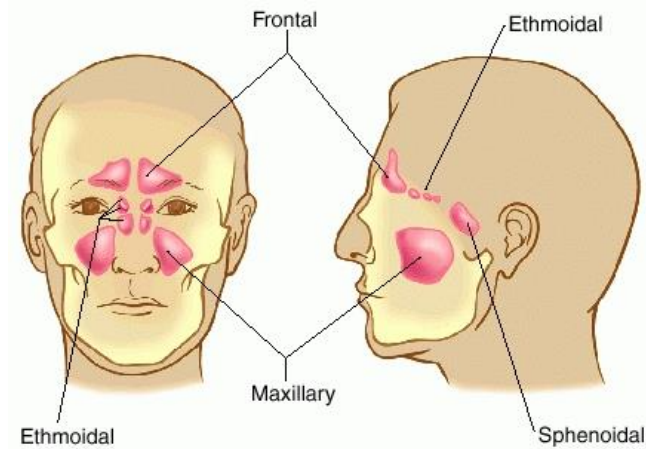
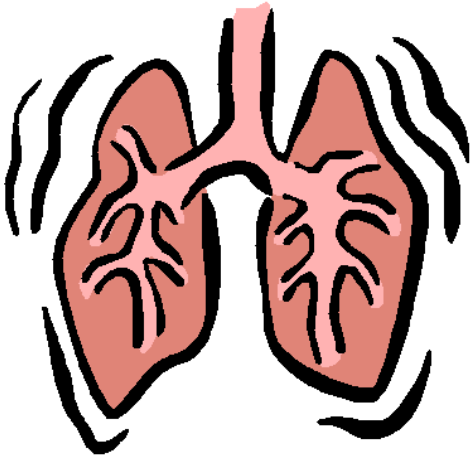


Productive Cough



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Haemoptysis



Haemoptysis- How much is enough?



Haemoptysis- how often is enough?



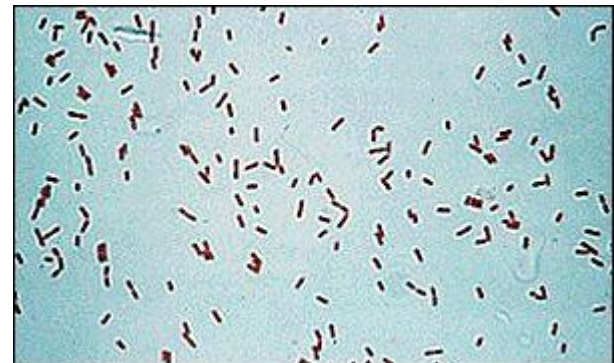
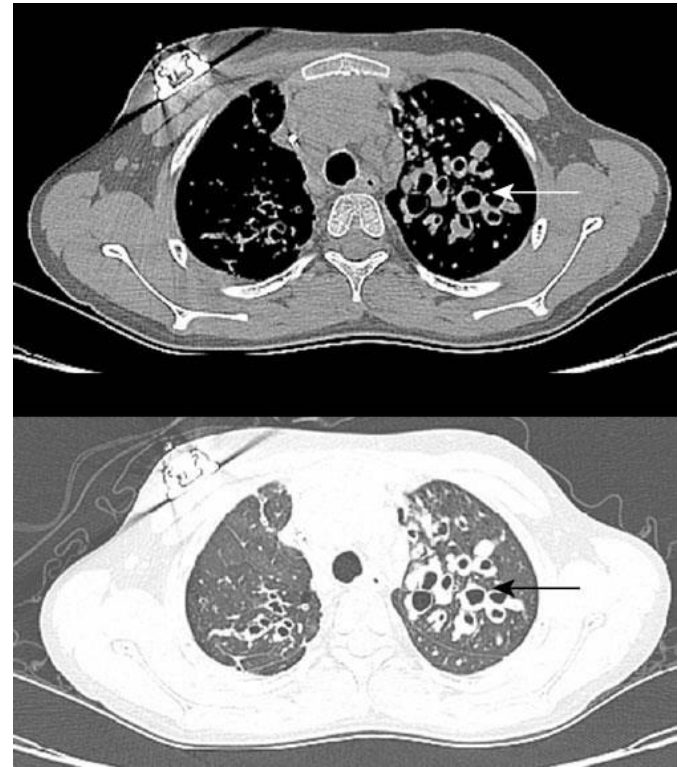
What triggers a referral under the 2-week wait?

What triggers a non-urgent referral?

What makes you think of a diagnosis of bronchiectasis?

Haemoptysis- the history tells you loads

Childhood Pneumonia
Recurrent infections
Severe Pneumonia
Immunosuppression
Cystic Fibrosis
Sputum Production all day

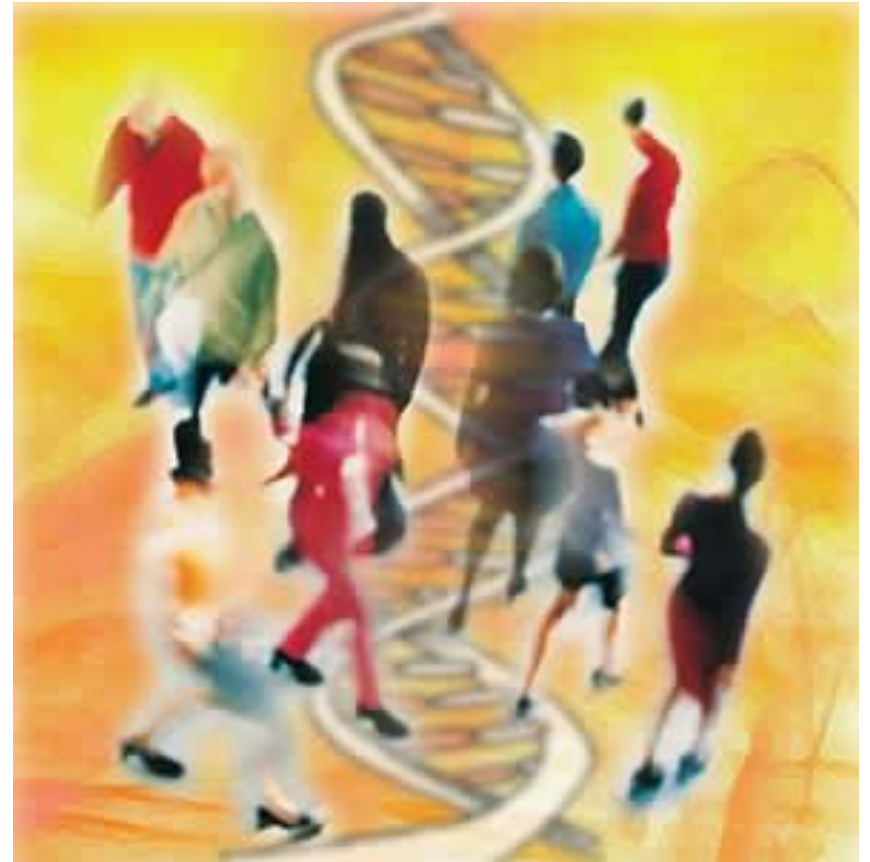


Haemoptysis- the uncertainties



The Art of Medicine is still important

The science of medicine compliments it



Haemoptysis: The Question?



**“Why am I not
sending this
person for
a CXR?”**



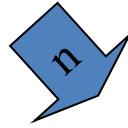
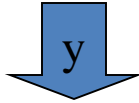
and finally...





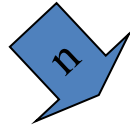
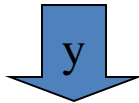
30 second approach

Do you smoke?



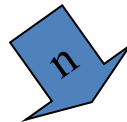
Record on patient's notes

Would you like to stop?



Provide patient with leaflet offer future help if needed

Would you like my/our help to stop smoking
(because there are treatments available)?



Reinforce the idea that you/your team can help

Encourage patient to arrange a (double) appointment with GP/nurse/
smoking cessation counsellor and provide patient with leaflet

- Ask
- Advise
- Assist
- Arrange

Video Clip

A word cloud featuring various expressions of gratitude in multiple languages. The central and largest words are 'THANK' and 'YOU' in a bold, black, sans-serif font. Other prominent words include 'GRACIAS', 'ARIGATO', 'SHUKURIA', 'MERCI', 'BOLZIN', 'BIYAN', 'TASHAKKUR ATU', 'GRAZIE', 'MEHRBANI', 'SUKSAMA', 'DANKSCHEEN', 'JUSPAKAR', 'GODANAGITA', 'PACHADITO', 'KORIPOLAKHIDA', 'HAKATI', 'PALESI', 'YAGHAYTLAY', 'TAKKI', and 'SHUKRIA'. The words are arranged in a roughly circular pattern around the center, with varying orientations and sizes.