LIVELY Physical Activity Intervention in COPD

Health Professional Toolkit



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Section 1: Classification of pedometer determined PA in healthy adults

Healthy adults^{1,2}

- Under 5000 steps/day: "sedentary lifestyle index"
- 5,000-7,499 steps/day is typical of daily activity: "low active. "
- 7,500-9,999 likely includes some exercise or walking: "somewhat active."
- 10,000 steps/day indicates the point that should be used to classify individuals as "active"
- Individuals who take more than 12,500 steps/day are likely to be classified as: "highly active"

Patients with Respiratory Conditions

- These target classifications may not be achievable for patients with respiratory conditions.
- Physical activity guidelines for healthy adults recommend at least 150 minutes of physical activity per week, or 10,000 steps per day.
- In respiratory conditions the guidance remains unclear. 7000 steps per day has been suggested for this population, however, this may not be realistic in patients with severe respiratory conditions. Physical activity guidelines recognise that some physical activity is better than none.³
- The minimal important difference (MID) in physical activity in patients with COPD after pulmonary rehabilitation is 600-1100 steps per day⁴.
- Considering that most patients with chronic lung disease typically exhibit low levels of daily activity it is important to recognise that relatively small increases in physical activity are still likely to be effective in generating important health benefits⁵.

¹ Tudor-Locke, C., Craig, CL., Brown, WL., et a. (2011) How many steps/day are enough? For adults. Int J Behav Nutr Phys Act, 8:79.

²Tudor-Locke, C., Bassett, DR. (2004). How many steps/day are enough? Preliminary pedometer indices for public health. *Sports Med*, 34(1):1-8.

³ Tudor-Locke, C., Washington, TL., Hart, TL. (2009) Expected values for steps/day in special populations. *Prev Med*, 49:3-11. ⁴ Demeyer, H., Burtin, C., Hornikx, M., et al. (2016) The minimal important difference in physical activity in patients with COPD. *PLoS ONE* 11(4):e0154587.

⁵ Wilson, J., O[']Neill, B., Collins, EG., et al. (2014) Interventions to Increase Physical Activity in Patients with COPD: a comprehensive review. *Journal of COPD*, 12(3):332-43.

Section 2 Pedometer familiarisation (for patients using the Yamax Digiwalker)

The following are instructions for the recommended pedometer for this walking programme (Yamax Digiwalker). The patient may have an alternative method for measuring their step counts.

Familiarise the patient with the pedometer and provide them with the instructions for using it.

Instructions on use of pedometer

- A. Opening the Pedometer
- Drop the cover down by holding the top of the clip with one hand, between your thumb and fingers. Using the other hand, push the projecting portion of the cover case away from the clip, thus opening the case



B. Wearing the Pedometer

- Attach pedometer to your belt or waistband using the clip
- It should be placed at waist level in the midline of the dominant thigh– make sure the pedometer is level
- Check it is not tilting forward due to your tummy. If it is, move to the side.



- C. Recording the number of steps at the end of the day
- Pull the protective cover down
- Record the number of steps in your diary
- Also record any comments about your activity on that particular day
- Any changes in your usual habits
- Any problems with the pedometer
- Any time that it was not worn (record the time you took it off and the time you put it on)

The diagram below demonstrates where you will see how many steps you have done. This is the number you record each day in your diary.



It is important that you use both the pedometer and the diary together.

For physiotherapist use only

D. Resetting the pedometer

- Drop the cover down (as explained above)
- Reset the number of steps to zero by pressing the yellow 'Reset' button (button B)
- The step count should now read zero on the screen

The diagram below demonstrates the button to press to reset the number of steps to zero



Section 3: Strategies for increasing PA with suggested script

- (A) BENEFITS associated with Physical Activity
- (B) Health professional resource -benefits and risks associated with PA in respiratory conditions
- (C) Pros of Physical Activity
- (D) Emphasise the RISKS associated with physical inactivity
- (E) Discuss the Cons associated with physical inactivity
- (F) How to overcome the general BARRIERS to physical Activity
- (G) Marcus SE questionnaire responses to overcoming barriers
- (H) Substituting inactivity (counterconditioning)
- (I) Enlisting social support
- (J) Set realistic goals (Self-Liberation)
- (K) Rewarding success (reinforcement management)
- (L) On-going Support
- (M) Preventing Relapse

(A) BENEFITS associated with Physical Activity

Discuss the **benefits** of doing physical activity and doing more walking with the patient. Refer back to the handover sheet to determine what the patient identified as a suggested benefit to them. For example, the patient identified that doing more physical activity would be good for their heart.

You suggested that being more physically active would be good for your heart and this is correct. Research studies have shown that increased physical activity has a number of beneficial effects on your general health state, including strengthening your heart. Additional benefits include having more energy, improving your general sleep pattern and mood and having a sense of achievement.

NB This should be light touch for 'general benefits' of PA and more detailed for 'disease specific benefits' of PA.

Research studies in patients like you who have respiratory diseases have shown that being more active can lesson your fear of your symptoms getting worse and give you better control of your symptoms like shortness of breath.

You mentioned at your previous visit that a benefit to you of doing more walking would be...... Is this still the same? Can you think of any other benefits you would gain from being more active and doing more walking?

Discuss any additional benefits that patient highlights referring to PA consultation plan and respiratory resource booklet if additional information is required.

> Insert these details on <u>benefits</u> on the patient's PA consultation plan in their chart.

(B) Health Professional Resource – Benefits of Physical Activity and Risks of Inactivity in Respiratory Disease

Key message section:

- Many people with COPD avoid doing physical activity as they think they are too poorly. However, this is the worst thing to do because the less you do the more deconditioned you become. Then you will become more short of breath with even less activity.
- People with COPD who lead an inactive lifestyle tend to have poorer lung function, higher levels of breathlessness, higher number of hospital admissions, poorer exercise tolerance and poorer quality of life.
- Regular physical activity can stop the vicious cycle of inactivity, and as a result it will help with your breathing.
- Physical activity also helps to reduce stress and gives you more energy.
- Regular physical activity can help control your weight, reduce your cholesterol, make your heart stronger and help control your blood pressure.
- The greatest benefits are gained by inactive people who start to take part in regular physical activity. You will notice the difference as soon as you begin.
- Some physical activity is better than none.
- You can do small amounts of activity several times a day, but try to be active for at least 10 minutes at a time.

Further info section:

Many people with COPD avoid doing physical activity as they think they are too poorly. Despite being short of breath, it is important that you try to keep as active as possible.

The main symptom of COPD is shortness of breath. Becoming short of breath can make you anxious and even cause you to panic. Being anxious can make you breathe faster, which increases your shortness of breath and as a result you become more anxious. It can be tempting to stop doing some activities and to do less than you did before to avoid becoming breathless. However, this is the worst thing to do because the less you do the more deconditioned you become. Then you will become more short of breath with even less activity.



People with COPD who lead an inactive lifestyle tend to have poorer lung function, higher levels of breathlessness, higher number of hospital admissions, poorer exercise tolerance and poorer quality of life.

International guidelines recommend that people with COPD take part in physical activity every day. The majority of people, whatever their age or condition, can benefit from physical activity. People with COPD can gain the same benefits as people who do not have COPD.

Regular physical activity can stop the vicious cycle of inactivity, and as a result it will help with your breathing. It can also build and maintain healthy bones, muscles and joints and improve your balance. As a result, it helps to maintain your mobility and reduces the risk of falling, which in turn maintains your independence and quality of life.

Research has shown that physical activity also helps to reduce stress, gives you more energy and releases hormones called endorphins. They are the body's feel good hormones which help boost your mood and make you feel good.

There are lots of other health benefits of taking part in regular physical activity. It can help control your weight, reduce your cholesterol, make your heart stronger and help control your blood pressure. Regular physical activity also helps to protect from stroke, osteoporosis and diabetes.

The greatest benefits are gained by inactive people who start to take part in regular physical activity. You will notice the difference as soon as you begin.



Pate et al 1995, JAMA

Figure 1.-The dose-response curve represents the best estimate of the relationship between physical activity (dose) and health benefits (response). The lower the baseline physical activity status, the greater will be the health benefit associated with a given increase in physical activity (arrows A, B, and C).

It's never too late to start increasing your physical activity levels and any amount of physical activity will make you healthier. Some physical activity is better than none. You can do small amounts of activity several times a day, but try to be active for at least 10 minutes at a time. Also remember to build up your activity slowly, better to do a little every day than to go all out - you should enjoy being active. Be as physically active as your condition allows you and remember also to take your reliever inhaler if you feel short of breath.

Living Well with COPD programme for Pulmonary Rehabilitation. 2011. Continuing Exercise and Self-Management Strategies Health Professional Manual, UK section I [http://www.livingwellwithcopd.com – last accessed 19.01.2018] Public Health Agency. 2011. Make the first move. Last updated: 03March2011

http://www.publichealth.hscni.net/publications/make-first-move

Alison Kirk's course handouts

Pate et al. 1995. Physical Activity and Public Health -- A Recommendation from the Centers for Disease Control and Prevention and the American College of Sports Medicine. JAMA; 273: 402-407

Hartman et al 2010. Consequences of Physical Inactivity in Chronic Obstructive Pulmonary Disease. Expert Rev Resp Med; 4 (6): 735-745.

(C) Pros of Physical Activity

Research studies in patients like you who have respiratory diseases have shown that being more active can lesson your fear of your symptoms getting worse and give you better control of your symptoms like shortness of breath.

You mentioned at your previous visit that a pro to you of doing more walking would be...... Is this still the same? Can you think of any other pros of being more active and doing more walking?

How do you think this would help or impact on your day to day life?

Discuss any additional pros that patient highlights referring to PA consultation plan and respiratory resource booklet if additional information is required.

> Insert these details on pros on the patient's PA consultation plan in their chart.

(D) Emphasise the RISKS associated with physical inactivity

Suggested script:

Evidence has shown that there are risks for people who are not physically active such as becoming less able to do things, gaining weight & poorer exercise tolerance.

For people like you with respiratory disease, evidence has shown that physical inactivity can lead to poorer lung function, a higher level of breathlessness, an increase in the number of hospital admissions and therefore a poorer quality of life.

(E) Discuss the Cons associated with physical inactivity

Ask the patient if they were to become more active would there be any cons or downsides to this.

Suggested script:

Can you think of any cons or downsides of being more active and doing more walking?

Identify and discuss with patient how to minimise any cons that have been identified.

 \succ Insert this discussion on cons on the patient's PA consultation plan in their chart.

(F) How to overcome the BARRIERS to physical Activity

Discuss how to overcome the **<u>barriers</u>** (and minimise the <u>**Cons**</u>) to PA in order to help the patient do more walking. If several barriers have been identified select one or two that are key barriers and discuss how to overcome these.

For example, the patient may have stated that a barrier for them would be if the weather was bad they would not get out to do any walking. See suggested script below.

You mentioned that a particular barrier for you would be if the weather was bad you would not go out for a walk.

Perhaps you can think of places indoors that you might walk if the weather was bad?

Perhaps you would plan a different time to go for a walk when the weather improved?

Suggested script on overcoming barriers

Let's talk about any barriers or obstacles that you might have to becoming more physically active or to increasing your walking.

Last week you mentioned that a particular barrier for you was:

Do you agree with this?

Are there any other barriers you can think of?

Discuss how to overcome these obstacles and reasons that would stop the patient from walking more or doing additional PA.

So [INSERT PATIENT NAME] you can see that there are ways to overcome these obstacles and barriers that might stop you from doing more walking.

When we plan your weekly goal for doing more walking we can discuss this further so we can overcome these obstacles.

(G) Marcus self-efficacy questionnaire responses to overcoming barriers

Participants can complete Marcus' self-efficacy questionnaire during their appointment 1 indicating how confident they are that they could be physically active in various situations.

If they respond that they were "not at all confident" (i.e. a score of 1) or that they were "slightly confident" (i.e. a score of 2) that they could be physically active in any of the following situations please follow the suggested script below. If a patient responds "not at all confident" or "slightly confident" in more than one situation ask the patient which of the situations would be their biggest barrier to taking part in physical activity.

When I am short of breath (refer patient to their LWWCOPD for PR patient booklet)

People with COPD sometimes avoid taking part in physical activity because they are afraid of becoming breathless. However, the less activity you do, the more deconditioned you become and you become breathless with even less activity. It is a vicious cycle. Taking part in regular physical activity can break this vicious cycle and there are techniques you can use while doing physical activity to manage shortness of breath.

- **Pursed-lip breathing**: Learning how to breathe in through your nose and slowly breathe out through your lips can help relieve shortness of breath when you are doing physical activity.

Instructions

- 1. Breathe in slowly through your nose filling your lungs with air
- 2. Purse your lips as you would if you were whistling
- 3. Breathe out slowly while keeping your lips pursed. Make sure to take longer to breathe out than you would to breathe in. Remember to keep your lips pursed.

Do not force your lungs to empty.

Ensure that your breath out is longer than your breath in.

- "Blow-as-you-go":

Instructions

The rule of thumb is to breathe out when an effort is required, for example when opening a heavy door: breathe in, then breathe out as you pull the door open.

- **Inhaled therapies:** Take your reliever inhaler before taking part in physical activity
- **Oxygen:** If you use oxygen at rest this may need to be increased during exercise.

- **SOS technique**: If you do become short of breath the main priority is not to panic. Instructions

Stop and find a comfortable position (lean forward slightly), relax your shoulders, breathe in through your nose (if you can) and breathe out through pursed lips, slow down your breathing (take longer to breathe out than to breathe in), do not force the breath out. Continue to do this until you have your breathing back until control.

When I am tired

Research has shown that one of the benefits of taking part in regular physical activity is increased energy levels. So by remaining physically inactive you will continue to feel tired and have a lack of energy. It is a vicious cycle. However, there are steps you can take to break this vicious cycle:

- Try to get a sense of the day when you have the least and most amount of energy. Try to schedule your physical activity at the time of day that you have the most energy.

- Plan ahead – you may be able to combine your physical activity with a message/chore you need to complete, for example a walk to the shop to collect the newspaper (provided it involves walking for more than 10 minutes at a time).

- Get a good night's sleep

When I am in a bad mood

Research has shown that physical activity releases hormones called endorphins. They are the body's feel good hormones which help boost your mood and make you feel good.

- Choose an activity that you enjoy doing.
- Go with a friend/relative. Have fun while walking together.

When I feel I don't have the time

We have many demands in our lives meaning that sometimes it can be difficult to find the time to do physical activity.

- If you don't have the time to go for a long walk each day, don't worry. Research has shown that a number of shorter bouts of activity can lead to health benefits, provided you are doing more than 10 minutes of physical activity at a time.

- Add physical activity to your normal daily routine, for example walk to the shop instead of driving, talk the stairs instead of the lift, park in the space furthest from the door.

When I am on vacation

When we are on our holidays it can be difficult to maintain our physical activity levels. However, it is important to try to incorporate some physical activity into your holiday plans. That way it won't be as daunting to start again when you return home.

- Use your holidays as an opportunity to try a new activity or see new sights. Go for a sightseeing walk, whether on your own or with a tour guide.

- You can talk a walk through the halls and climb the stairs of your hotel

- Choose hotels/resorts that have facilities for physical activity, such as swimming pools or walking clubs

When it is raining or snowing

Most people find it difficult to continue to be physically active when the weather is bad.

- Pick a variety of activities so that if the weather is bad you can do something indoors, for example aerobics class, stair climbing at home, dancing

- If you want to exercise outside wrap up warm. Wearing a scarf over your nose and mouth can help warm the cool air as you breathe in.

When I have respiratory symptoms

When you have a pulmonary exacerbation you may need to reduce the intensity of your physical activity until your symptoms have improved. Even doing a small amount of activity can help. There are strategies you can you use to help you maintain a level of activity:

- Stay active within your limits.
- Slow down your pace: a slower and regular pace uses up less energy.
- Try to do your physical activity at the time of day that you have the most energy.

- Use breathing techniques to help you control shortness of breath, such as positions of ease, pursed lip breathing

- If you become wheezy or very short of breath, remember to take your short-acting bronchodilator before you do physical activity

If, because of an exacerbation, you have to stop being physically active temporarily it is important you start again when your symptoms resolve.

Gradually increase your activity levels once your exacerbation has resolved.

- Contact your doctor and/or nurse/physiotherapist if you are unable to resume your physical activities following an exacerbation.

> Insert these details on <u>barriers</u> on the patient's PA consultation plan in their chart.

References:

Living well with COPD programme for Pulmonary Rehabilitation. 2011. Patient Information book.UK Section. Available from http://www.livingwellwithcopd

NHS choices. 2012. Overcoming the barriers to exercise. [Last updated - 15/09/2012] http://www.nhs.uk/Livewell/c25k/Pages/overcoming-the-barriers-to-exercise.aspx

Centers for Disease Control and Prevention. 2010. Promoting Physical Activity: A Guide for Community Action. 2nd Edition Mayo clinic. 2011. Barriers to fitness: Overcoming common challenges. [Last updated - 19/02/2011] <u>http://www.mayoclinic.com/health/fitness/SM00085_D</u>

(H) Substituting inactivity (counterconditioning)

Discuss ways and opportunities to substitute periods of inactivity with more walking. Explore their usual daily pattern of activity.

Example of patient reported obstacle:

"I look after my grandchildren every day Monday to Friday".

Suggested script: Let's have a think about how you could incorporate some walking into your week. Would it be possible to walk around the back yard while the children are playing instead of keeping an eye on them through the window?"

> Insert this discussion on <u>substituting inactivity</u> on the patient's PA consultation plan in their chart.

(I) Enlisting Social Support

Highlight and discuss with the patient the influence that other people can have on their behaviour. Explain to the patient that by having a friend or buddy, who could walk with them can help by providing company and support.

Sometimes it can help you to be more active when you have support from someone else. This can be done in a number of ways, for example, would you have a think about whether there is someone you could go for a walk with?

Is there anyone in a similar position as you who you could chat to for advice and to support each other? This could be by telephone every week and you could compare your walking goals.

If the patient has no one to buddy up with explain that they could even just call a friend or relative and tell them what they did that day.

If you can't think of someone to walk with or who is similar to you, maybe you could chat to a friend or relative on the phone and tell them what you achieved today.

> Insert this discussion on <u>enlisting social support</u> on the patient's PA consultation plan in their chart.

(J) Set realistic goals (Self-Liberation) - Choosing the course of action to change the problem and committing to that choice.

Discuss and agree a **<u>general goal</u>** i.e. short term 12 week goal at the patient would like to achieve from the PAI.

The purpose of this section is to address the patients' number one concern - when they act, will they fail?

Reinforce that the better prepared they are, the more likely they are to keep progressing.

The key is that they take small steps that they believe can help them make the healthy behaviour a part of their lives.

Discuss with the patient how to set realistic personal goals about their overall plan to increase their physical activity by walking.

This should follow the SMART format in that it should be **specific** to the patient's individual circumstances/preferences, **measurable** over a time frame (12 weeks), **action orientated** in that they are taking action to walk more, **realistic & relevant** to the patient and be **time based**, i.e. a relevant functional goal achievable following the 12 weeks walking programme.

Could we chat about and agree a goal for you that you feel you can really do by the end of the week. Once we set this, we will gradually build this up at your own pace.

Perhaps this would be for you to walk a bit further than normal, or walk a bit faster? This could also be to improve your breathlessness and have less symptoms or maybe just to socialise a bit more with others?

It is important for you to realise that you may not always meet your goal every week but this is okay. Together we can agree on a new one.

If you plan when you are going to walk this will make it more likely that you will meet your goal.

How do you think you would feel if you behaved in a healthier way?

> Insert this general goal on the patient's PA consultation plan in their chart.

(K) Rewarding success (reinforcement management)

Encourage the patient to reward themselves when they make a positive behavioural choice! For example, if they meet their step goal or manage to avoid a behaviour that would result in not doing their steps then a small reward can be helpful such as watching a particular TV program.

Suggested script:

Even if you are only able to increase your walking a small amount, this can have a big impact on your health.

If you do a short walk today or later this week, a small reward could be watching a TV program, reading a book, telling someone or noting it in the diary.

Or if someone calls you to come round for a cup of tea and this may distract you from your walking plan, perhaps you could arrange to go tomorrow instead or a bit later after you have done your walk?

Can you think of a small reward for yourself if you manage to increase your steps this week? If you avoid a distraction from your walking plans this week what would you consider as a small reward?

Perhaps you can let me know what happened.

> Insert this discussion on <u>rewarding success</u> on the patient's PA consultation plan in their chart.

(L) On-going Support

Suggest ways to the patient that they can receive on-going support. This is not just having a walking buddy but also seeking help and information from others who perhaps are in the same position and can give the benefit of their experience.

Reflect back on the individual's response to previous success in enlisting support and review the most successful methods.

For example:

One thing you mentioned that was a good way to get support for you was to text your sister on the days that you did your walking.

Does this still help you and is there anything else you feel you could do to get more support now?

> Insert this discussion on <u>on going support</u> on the patient's PA consultation plan in their chart.

(M) Preventing Relapse

Encourage the patient to find ways to strengthen their commitments to change. The importance of fighting the urge to slip back should be addressed here.

Briefly remind the patient of the benefits of walking and reflect on their achievement through the programme.

Suggested script:

One of the benefits of a walking program is that you can do a little more walking and be less breathless and during this programme you have achieved......[insert relevant information specific to patient].

So what would help you to avoid slipping back to being less active?

What do you feel you need to help you keep going?

Perhaps by joining a walking group in your area this would keep you focused?

Would choosing a different walking route help?

Could you avoid specific situations or even certain people that you know could tempt you to behave in this 'unhealthy' way?

What sort of things do you foresee perhaps preventing you from progressing?

If patient gets an exacerbation such as a chest infection, advice is as follows:

Try to keep active and as your symptoms get better try to start with small amounts of walking and try to build this up again over the weeks ahead.

Insert this discussion on <u>preventing relapse</u> on the patient's PA consultation plan in their chart.

Section 4: COPD Education component

(A) Management of Breathlessness

Delivery of information

- i. Provide the patient with an overview of the LWWCOPD for PR patient booklet
- ii. Deliver material below relating to: Management of breathlessness.
- iii. Provide the LWWCOPD for PR Key Messages (n=5)

Additional resources

- i. LWWCOPD for PR manual: Session 1 Management of breathlessness
- ii. LWWCOPD for PR manual: Session 2 Energy conservation; Section 3.4.1 and 3.4.2 Pacing with activity.
- iii. Refer to Key Messages relating to management of breathlessness

Living well with COPD programme for Pulmonary Rehabilitation. 2011.UK Section. Available from http://www.livingwellwithcopd

Physical activity and breathlessness

The main symptom of COPD is shortness of breath. Many people with COPD choose to stop doing physical activity because they are afraid of becoming breathless. However, the less you do, the less you are in shape and you will experience more fatigue and shortness of breath.

When you have COPD, nothing will make shortness of breath go away completely. However, there are techniques you can use that can help you to manage your anxiety and shortness of breath better.

Pursed-lip breathing (Page 26 in LWWCOPD for PR Patient booklet)

• Have you heard about pursed-lip breathing? If yes, are you using it? How and when?

Pursed-lip breathing is one of the techniques you can use to help you feel less short of breath. You can use pursed-lip breathing either at rest or with activities. With this technique, you breathe out slowly, which allows you to breathe out more air, therefore leaving less air trapped inside your lungs.

Steps:

- 4. Breathe in slowly through your nose filling your lungs with air
- 5. Purse your lips as you would if you were whistling
- 6. Breathe out slowly while keeping your lips pursed. Make sure to take longer to breathe out than you would to breathe in. Remember to keep your lips pursed.
- 7. Do not force your lungs to empty.

Ask the patient to practice the technique. Provide them with constructive feedback and reinforcement on the performance of the technique.

Points to remember:

- The focus should be on the breath out.
- Breathing out should be made longer, but not forced.
- First master this breathing technique while at rest. Then you will be able to use it with activities requiring effort.

Using pursed-lip breathing with activities

Learning how to breathe in through your nose and slowly breathe out through your lips can help relieve shortness of breath when you are doing physical activity. Sometimes, applying the pursed-lip breathing technique may seem to take too much time. However, you will actually end up saving time, since you will take fewer and shorter breaks because you will be less short of breath.

You can apply pursed-lip breathing to various physical activities, for example walking or climbing the stairs:

W	hen walking:	When climbing stairs:
•	Breathe in and count each step	If you suffer from severe shortness of breath:
	12	Breathe in at rest.
٠	Breathe out and count each step	Climb one step while breathing out, and
	1234	stop for breathing in. Repeat for each
•	Ensure that your breath out is longer	step.
	than your breath in.	If you are able to climb some steps:
		Breathe in at rest.
		Climb 3-4 steps while breathing out, stop
		for breathing in.
		If you are able to climb at least a flight of
		stairs:
		Breathe in at rest.
		Climb 3-4 steps while breathing out.
		Climb 2 steps while breathing in.
		• Climb 3-4 steps while breathing out, etc.
Sι	Iggestions	Suggestions:
٠	Walk only as fast and as far as you	Climb slowly.
	can while respecting your own limits.	Do not force your breath out.
•	Do not hold your breath.	

Ask the patient to practice the technique with either walking or stair climbing. Provide them with constructive feedback and reinforcement on the performance of the technique.

"Blow-as-you-go"

Pursed lip breathing can also be used with movements that require effort, for example lifting an object or opening a door. This is sometimes referred to as "blow-as-you-go".

The rule of thumb is to breathe out when an effort is required, for example when opening a heavy door: breathe in, then breathe out as you pull the door open.

Ask the patient to practice the technique with examples related to daily life activities: picking up objects from the floor, opening a heavy door, hanging clothes, putting on shoes, etc.. Provide them with constructive feedback and reinforcement on the performance of the technique.

Positions of ease (Pages 28-29 in LWWCOPD for PR Patient booklet)

• Do you think the way that you stand or sit can affect your breathing? If yes, how?

Poor posture – with shoulders tensed or hunched over – can lead to increased shortness of breath, because your chest cannot expand to its full capacity. Changing your body position while sitting or standing can help you breathe better.

"Positions of ease" can offer relief to accessory muscles and improve diaphragm function.

BODY POSITIONS					
SITTING	STANDING				
 Sitting position A Place both feet on the ground. Lean your chest forward slightly. Relax your upper chest and shoulders. 	 Sitting position A Lean your chest forward slightly. Relax your upper chest and shoulders. Rest your hands on your thighs. 				
 Rest your elbows on your knees. You can rest your chin on your hands. 	 Standing position B Rest your elbows on a piece of furniture. Rest your head on your forearms. Relax your upper chest and shoulders. 				
 Sitting position A Place both feet on the ground. Lean your chest forward slightly. Relax your upper chest and shoulders. Rest your elbows on your knees. You can rest your chin on your hands. 	 Standing position C Rest your hands on a flat surface. Relax your upper chest and shoulders. Avoid "grabbing the table" while assuming this position. This can overwork some of your accessory breathing muscles, and cause breathlessness if you hold the position too long. 				

Ask the patient to practice some of the different positions of ease while integrating the pursed-lip breathing technique. Provide them with constructive feedback and reinforcement on the performance of the technique.

• Did your breathing change when you used one of the body positions previously described? How did it feel different?

Points to remember:

- Use pursed-lip breathing with the different body positions.
- It's important to lean your chest forward slightly, which reduces the pressure against your diaphragm, allowing it to relax more. Relax your shoulder and neck muscles and find something to support you, if possible.
- You may also find it useful to sit or stand beside a fan or an open window when you feel very breathless.

<u>SOS technique in an acute attack of shortness of breath</u> (Page30 in LWWCOPD for PR Patient booklet)

• What do you do when you experience an acute attack of shortness of breath?

Experiencing an acute attack of shortness of breath can be frightening for people with COPD. Learning to stay calm during an attack can get your breathing – and anxiety – back under control.

To bring your breathing back to normal during an acute attack of shortness of breath.

Steps:

- 1. Stop and find a comfortable position.
- 2. Stay as calm as possible; relax your shoulders.
- 3. Start pursed-lip breathing: breathe in through your nose and purse your lips to breathe out. If you are unable to breathe in through your nose use your mouth.
- 4. Slow down your breathing by taking more time to breathe out than you would to breathe in. Do not force your lungs to empty.
- 5. Start to breathe in through your nose if you have not been able to do it so far.
- 6. Continue to pursed-lip breathe until your breathing is back under control.
- 7. If necessary, you could also take your short-acting bronchodilator (reliever).

Ask the patient to practice the technique by marching on the spot and then pretending they have an acute attack of shortness of breath. Provide them with constructive feedback and reinforcement on the performance of the technique.

Points to Remember:

- Make sure that you practice and master the pursed-lip breathing technique while at rest before using it during an acute attack of shortness of breath.
- It is very important that you give yourself the space and time to get your breathing back to normal. Remember to slow down your breathing.

(B) Action Plan and Medications

Deliv	ery of information
i.	Provision of "COPD Self management action plan"
ii.	Education topic: "COPD Self management action plan" and medications
iii.	Check inhaler technique
<u>Addit</u>	ional resources
iv.	LWCOPD for PR manual session 3:
v.	COPD Self management action plan
vi.	HP guidelines for COPD Self management Action Plan
vii.	LWCOPD for PR manual session 4: COPD medications (including instructions
	on inhaler technique)
viii.	Refer to Key Messages relating to LWCOPD for PR Session 3: Medications
Living	well with COPD programme for Pulmonary Rehabilitation. 2011.UK Section. Available from
COPD	Self Management Action Plan http://www.publichealth.hscni.net/sites/default/files/copd.pdf

COPD Self-management action plan

Your **Action Plan** plays an important part in your life, as it will help you make key decisions in treating your COPD when your symptoms get worse. If you use your Action Plan properly, you will become more independent and feel more in control when your symptoms get worse. Your Action Plan may make the difference between a trip to the hospital and treatment at home!

Your Action Plan will help you to:

- Better recognise your usual everyday symptoms.
- List what you are doing every day to remain well, including taking your medication as prescribed.
- Recognise an exacerbation (a significant worsening) of your symptoms.
- Know what to do to prevent an exacerbation (a significant worsening) of your symptoms and start an early treatment if that happens.
- Know when and whom to call if your symptoms get worse or do not improve.

An Action Plan includes the following sections:

- Contact list.
- Usual symptoms, medications and actions.
- What to do when symptoms are worse, or you are developing an exacerbation (significant worsening of symptoms).
- When to seek help.

Contact's list

An essential part of your action plan is to have the phone numbers of your contacts close at hand. These are the key people you should call when you have a problem with your symptoms or treatment. Fill these in at home.

Part 1: Usual symptoms, medications and actions

To remain well use your action plan to monitor your everyday symptoms, to take your regular medication as prescribed and to maintain healthy life habits. Now let's talk through how to complete part 1 of your action plan.

"My usual symptoms"

• What symptoms do you experience everyday due to your COPD?

Guide participants to identify the following symptoms. Inform them to select only the symptoms that apply to them:

- SOB: Encourage the participant to use their own language to describe their shortness of breath. In response to "I can usually walk ______ before I become short of breath and need to stop and rest" insert either the distance e.g. 20 metres, or use the participant's own words e.g. "usually down to the newsagents and back."
- **Sputum:** Whether they cough up sputum (phlegm) daily and the characteristics of their sputum: colour, amount (volume), consistency.
- **Other symptoms:** Whether other usual symptoms are present daily, such as cough, wheezing, fatigue, limited sleep, loss of appetite, low mood, anxiety or panic.

"My usual medication"

Review with the participants the elements that should be covered in this section and that will help them to identify:

• The medications included as part of the everyday treatment for COPD.

Encourage patient to record on their Action Plan the medications they use every day for their COPD.

- Check if the patient requires a review of their inhaler technique and provide this review of their inhaler technique. Refer to pages 10 to 24 in LWWCOPD for PR patient booklet for step-by-step instructions.
- > Review situations linked to disease control when walking is low

"Other actions"

Discuss each symptom previously identified by the participants and discuss other actions they can take to control their daily symptoms, for example:

• **SOB:** positions of ease, breathing control, pursed lip breathing technique, pacing.

Encourage participants to record on their Action Plan the actions that are appropriate to them.

Sign and Symptoms of an Exacerbation

• What is an exacerbation?

An exacerbation is a significant worsening or a "flare up" of your usual COPD symptoms. An exacerbation can be caused by a chest infection, but sometimes it is not known why people have a worsening of symptoms.

• What are the symptoms of an exacerbation?

Specific Symptoms	Other Symptoms
More breathlessness than usual.	
 You find it harder to perform your usual activities. 	 You may have a cold or flu-like illness and/or sore throat preceding the changes in your sputum and
Changes in the colour, volume, and/or	shortness of breath.
consistency of your sputum.	
 Your sputum may become yellow or green, or sometimes just darker. 	• Fever
You may produce more sputum.Your sputum can become thicker	Fatigue

Part 2: "There may be times when your symptoms are worse"

Your action plan helps you identify when your symptoms are worse and the appropriate actions to take. **Now let's talk through how to complete part 2 of your action plan.**

We have seen before how to identify an aggravation of respiratory symptoms. Here at the section "There may be times when your symptoms are worse" you will find the symptoms you need to look for and that will indicate the presence of an exacerbation (a significant worsening) of your symptoms.

- What are the actions that you usually take to manage an exacerbation (a significant worsening) of your symptoms?
- Do you take additional medication to manage an exacerbation (a significant worsening) of your symptoms?

You have to look at the changes in your symptoms in order to decide what actions you need to take and if you need to start additional medication.

1. Look at your shortness of breath

- If your shortness of breath is worse than usual, you should first:
 - Use positions of ease, breathing techniques and pacing;
 - Increase your BLUE RELIEVER INHALER (SHORT-ACTING BRONCHODILATOR) prescribed by your doctor; and
 - Seek advice from your resource person.

 If after increasing your blue reliever inhaler (short-acting bronchodilator) your shortness of breath does not improve and you have difficulty performing your usual activities, you need to start your CORTICOSTEROID treatment (if you keep these medications at home). If you do not keep these at home then contact your resource person to request a prescription for corticosteroids. Do not wait more than 48 hours to start your corticosteroid.

Help participants identify how to increase (puffs, frequency) their blue reliever inhaler (short-acting bronchodilator), who their resource person is and how long they should wait before seeking help or starting corticosteroids. Encourage them to insert this time scale in the space provided (for example, within 48 hours).

- 2. Look for changes in your sputum colour, volume and consistency (not only in the morning).
 - If the colour becomes yellow or green you probably have a bacterial infection. You need to start short sessions of breathing exercises and huffing, seek advice from your resource person and start your **ANTIBIOTIC** (if you keep these medications at home). If you do not keep these at home then contact your resource person to request a prescription for antibiotics. **Do not wait more than 48 hours to start your antibiotic.**
 - For any other changes in your sputum (volume, consistency) discuss with your doctor the need for antibiotics.

Help participants identify who their resource person is and how long they should they should wait before seeking help or starting antibiotics. Encourage them to insert this time scale in the space provided (for example, within 48 hours).

Part 3: Warning signs

• What are the symptoms that can indicate that you need to get help immediately?

When you feel much worse your action plan helps you recognise the symptoms that tell you that you need to get help immediately, as well as the actions that you need to take.

In any situation if you are extremely short of breath, hot and shivery, confused and/ or drowsy, and/or you have chest pain, do not take any risk.

Contact your GP practice or out-of-hours service immediately or you may need to visit your Accident and Emergency department.

If at any stage you feel you are in danger phone 999.

If you have an Oxygen Alert Card, please show this to the ambulance staff and also take it with you to the hospital.

COPD Self-management Action Plan	Date:
[Insert Trust Logo]	Issued by:

Important Contact	Name	Telephone number
GP		
Community Respiratory Team		
Pharmacy		
Out of Hours Service		

Part 1: My <u>Usual</u> Symptoms									
Shortness of breath I can usually walk (insert distance or where) before I become short of breath and need to stop and rest Activities that usually make me short of breath are (insert): Sputum I usually have no sputum unless I have a chest infection I usually cough up sputum everyday									
1 teaspoon 1 eg	gcup 🛛 half a	cup 🗆 1 cup							
watery stick	y								
Other usual symptoms e.g. wheezing, anxiety or panic									
My Usual COPD Medication			1						
Medication	Prescr	ibed dose	Delivery device e.g.						
Inhaled medication	Amount	Times per day	spacer, MDI						
Other respiratory medication									
Other actions which help co	ontrol my usu	al symptoms							
other actions which help co	maoriny <u>asa</u>	ar symptoms							

Part 2 - There may be times when your	symptoms are worse.						
Talk to your nurse/doctor/healthcare professionalto work out what might help when your symptoms are a little worse.							
My actions if my shortness of breath is worse	My actions if my sputum is worse (colour, volume, stickiness)						
 Use positions of ease, breathing techniques and pacing 	 Do short sessions of breathing exercises and huffing 						
 Take my blue inhaler more often: _puffs /day. 	Seek advice from						
*Do not take more than a total of puffs/day	If I am not feeling better within hours/days then I should:						
Take my nebuliser: nebules /day. *Do not take more than a total of nebules/day	 Start antibiotics as recommended if I keep these at home and contact 						
Seek advice from:							
If I am not feeling better within hours/days then I should:	Contactto request antibiotics						
 Start corticosteroids as recommended if I keep these at home and contact 							
Contact to request corticosteroids							
Note: If you have been prescribed oxyger	n do not change the flow unless advised.						

Part 3 - Warning Signs

If you experience any of the following symptoms, contact your **GP practice or out-of-hours service** immediately or you may need to visit your A&E department.

- · Extremely short of breath
- Hot and shivery
- · Drowsy and/or confused
- Chest pain

If at any stage you feel you are in danger phone 999.

If you have an Oxygen Alert Card, please show this to the ambulance staff and also take it with you to the hospital.

Developed in collaboration with the Northern Ireland Regional Respiratory Forum, University of Ulster and McGill University Health Centre, Montreal

COPD Self Management Action Plan: Guidelines for Health Professionals

Important contacts: Help the patient to complete the list of their important contacts.

Part 1: This section helps the patient identify their <u>usual</u> symptoms and the medications and actions to control their usual symptoms.

- Help the patient complete this section about their usual symptoms. Guide patients to identify the following symptoms. Inform them to select only the symptoms that apply to them:
 - SOB: Encourage the patient to use their own language to describe their shortness of breath. In response to "I can usually walk ______ before I become short of breath and need to stop and rest" insert either the distance e.g. 20metres, or use the patients own words e.g. "usually down to the newsagents and back."
 - Sputum: Whether they cough up sputum (phlegm) daily and the characteristics of their sputum: colour, amount (volume), consistency.
 - Other symptoms: Whether other usual symptoms are present daily, such as cough, wheeze, fatigue, limited sleep, loss of appetite, low mood, anxiety, panic and pain.
- 2. Write the patient's usual medications (name, dose, delivery device) on their Action Plan and check their inhaler technique. If the patient has been prescribed LTOT and/or if they have been given an oxygen alert card, record this under "other respiratory medications". Other respiratory medicines may also include, for example oxygen, mucolytics, home supply corticosteroids and/or antibiotics. Ask patients to check the expiratory date of home supply medications.
- Go through each symptom indicated by the patient and talk about the actions they need to take to remain well. Talk
 about any additional actions they need to take to ensure optimal management. Write all relevant actions on the
 patient's action plan.

* If patient is linked with COPD MET office record this under "other actions" and make sure they are receiving consistent information.

Part 2: This section helps the patient recognise the symptoms of an <u>exacerbation</u> and understand the appropriate actions to take

- Talk about the patient's experience of an exacerbation by asking them if they know what an exacerbation is, and how to recognise an exacerbation. If required discuss symptoms of an exacerbation. Help the patient identify the difference between anxiety-related dyspnoea and exacerbation-related dyspnoea.
- Discuss with the patient when they may need increased medication (inhaled bronchodilators, corticosteroids and/or antibiotics) or help. Discuss with the patient the decision process to initiate their actions based on symptoms presentation:
 - Shortness of breath is worse
 - Sputum is worse (colour, volume, stickiness)
 - Discuss when they might need to use breathing techniques or increase their short-acting bronchodilator (blue inhaler).
 - Discuss when they should seek help and who they should contact and indicate this on the action plan.
 - Discuss how long they should wait before starting corticosteroids and/or antibiotics. Insert the agreed time
 scale in the space provided (for example, 48 hours) and indicate who they should contact.
- 3. Consider the frequency of use of rescue medications, home supply corticosteroids and/or antibiotics and note this.
- 4. Make sure the patient is confident with recognising an exacerbation, knowing the appropriate actions to take and when they should seek help and from whom. Write all relevant actions on the patient's action plan.

Part 3: This section helps the patient to identify warning signs

 Discuss the warning signs that indicate that they need to get help immediately, for example, extreme shortness of breath, chest pain, drowsiness and confusion. Discuss who they should contact and when, e.g. GP practice, out-ofhours service, 999. Write all relevant actions on the patient's action plan.

Note: This Action Plan does not replace the need to conduct individual patient assessment or review

Developed in collaboration with the Northern Ireland Regional Respiratory Forum, University of Ulster and McGill University Health Centre, Montreal

(C) Medication and physical activity

Bronchodilators are often prescribed for patients with COPD. If a patient reports wheezing and/or shortness of breath when physically active they may benefit from using a short acting bronchodilator immediately prior to walking.

Patients who have been prescribed long-term oxygen therapy and who are participating in a walking programme should use oxygen when walking. Each patient's oxygen prescription should include an ambulatory system with an oxygen flow rate which is usually greater that their resting prescription.

If a patient's oxygen saturations are consistently \leq 92% on room air when walking (for example, during the self-efficacy walk) they may require assessment for supplemental oxygen. Referral for an oxygen assessment should be considered.

(D) Airway clearance and physical activity

Patients with a chronic productive cough who produce excessive sputum while walking may benefit from an airway clearance session prior to walking. Other patients who use physical activity as an adjunct to airway clearance may find it helpful to do some deep breathing (thoracic expansion exercises) and huffing (forced expiratory technique) while walking and after their walk to expectorate sputum.

Patients who have a prescribed airway clearance regime should use the technique/adjunct they have been prescribed and for the length of time they have been recommended to perform it for. Referral to a respiratory physiotherapist should be considered for patients with a chronic productive cough who do not have a prescribed airway clearance regime.

Section 5: Flow Diagrams

(A) Flow diagram 1: detailing scenarios of goal setting troubleshooting and correct action to take



(B) Flow diagram 2: detailing scenarios resulting in low attendance (week 1-6 face-to-face appointments) and appropriate action to take



(C) Flow Chart 3: Detailing troubleshooting scenarios of weeks 6-12 telephone follow-up



Section 6: Mock case scenarios

(A) Case Scenario #1

Demographics								
Male, aged: 70 Height: 180).5cm	Mass:	68.1kg I	3MI: 20.9	9			
SpO ₂ at rest: 98%, on RA								
Never smoked Lives alone	e Retire	d, but cı	urrently v	olunteer	s 3-4da	ys/week		
Diagnosed with COPD 12 years ago Co-morbidities: Hernia: genitourinary								
Spirometry: FEV1:1.53L, 47%	FVC: 2	2.57L	FEV1/F	VC: 60%	I			
Perceived barriers / reasons to physical activityI don't have enough time.I don't want to aggravate my symptoms or become too breathless and end up with a chest infection								
Perceived benefits of physical activity	I know it make my	is good /self ill.	for me b	ut I don'i	want to	o over-d	o thing	js and
Baseline step count (from week prior to Appointment 1)	Day	Mon	Tues	Wed	Thurs	Fri	Sat	Sun
	No. of steps	6073	5763	6749	5448	2672	565	2905
	 Total weekly step count: 30,175 Average daily step count: 4,311 							
Self-Efficacy Walk Results (from Appointment 1)	 Nur Bor Nur ~30 	nber of g scale nber of second	steps tak when co rest peric s)	en (in 10 mpleted ods need)mins): walk: 3 led durii	713 ng walk:	1 (for	

Case Scenario #1

1. Based on the information provided what would you focus on when discussing the benefits of physical activity with this patient at the start of Consultation 1?

This patient has a number of barriers to physical activity.

- He is also worried about aggravating his symptoms and becoming SOB
- The discussion around the benefits of physical activity should address these barriers. It should focus on how physical activity can:
- Improve his energy levels
- Boost his mood through the release of endorphins
- Can control his symptoms, and improve his SOB

2. What goal would you set for this patient for the week ahead?

Points to consider:

- He walks an average of 4,311 steps/day
- Explore if this is a typical week for him, i.e. is it a true baseline?
- Explore why he is more active Mon→Thurs (could these be his volunteering days?), and less active Fri→Sun
- Baseline data show that he has the ability to be active on consecutive days
- He is able to walk 713 steps in 10minutes.
- BORG rating of 3 indicates he was walking at a moderate-intensity pace
- Important to build confidence in first few weeks and engage the patient in the programme so set a goal that is realistic and if need be err on the side of caution and set a slightly lower goal

- If the patient is confident a step goal could be: 700 extra steps on 3 days
- If the patient is not confident a step goal could be: 500 extra steps on 2 days.
- The target walking days should be selected by the patient

(B) Case Scenario #2

Demographics								
Male, aged: 69 Height: 158	cm	Mass:	51kg l	3MI: 20.4	1			
SpO₂ at rest: 95%, on RA								
Ex-smoker – 30 cigarettes/day for >50years, stopped 6months ago								
Lives with wife Retired, see	curity man							
Diagnosed with COPD 17 years ago Co-morbidities: Depression / PTSD								
Spirometry: FEV1: 0.53L, 20%	Spirometry: FEV1: 0.53L, 20% FVC: 1.51L FEV1/FVC: 35%							
Perceived barriers / reasons to physical activity	Panic th breathle	Panic that my oxygen levels drop too low when I'm breathless						
Perceived benefits of physical activity	Helps m	ıy lungs						
Baseline step count (from week prior to Appointment 1)	Day	Mon	Tues	Wed	Thurs	Fri	Sat	Sun
	No. of steps	700	925	900	475	392	158	213
	Total weekly step count: 3,763Average daily step count: 538							
Self-Efficacy Walk Results (from Appointment 1)	 Number of steps taken (in 10mins): 328 Borg scale when completed walk: 3 Number of rest periods needed during walk: 3 							

Case Scenario #2

1. Based on the information provided what would you focus on when discussing the benefits of physical activity with this patient at the start of Consultation 1?

This patient has very low confidence levels and has a number of barriers to physical activity.

- He believes that SOB indicates that his oxygen levels are low
- He suffers from PTSD/Depression
- It is crucial to correct his misconception of oxygen saturations and SOB. The selfefficacy walk is another opportunity to demonstrate this to the patient.

The discussion around the benefits of physical activity should address his barriers. It should focus on how physical activity can:

- boost his mood through the release of endorphins
- can control his symptoms, and improve his SOB

2. What goal would you set for this patient for the week ahead?

Points to consider:

- This patient is very sedentary. He walks an average of 538 steps/day
- Explore if this is a typical week for him, i.e. is it a true baseline?
- Explore why he is more active Mon \rightarrow Wed, and less active Sat \rightarrow Sun
- His baseline activity levels are low and he is unable to walk for 10mins without a number of breaks (328 steps in 10mins, with 3 rests).
- Do not focus on 10-minute bouts of walking with this patient.
- Important to build his confidence and steps up gradually by encouraging increased steps through ADLs
- A low target across more days would be appropriate for this patient

- If the patient is confident a step goal could be: 300 extra steps on 6 days
- If the patient is not confident a step goal could be: 250 extra steps on 4 days

Demographics								
Male, aged: 63 Height: 1670	m	m Mass: 80.1kg BMI: 28.7						
Spirometry: FEV1: 1.60L, 56%	FVC: 2	2.64L	FEV1/F	VC: 60%				
Baseline step count (from week prior to Appointment 1)	Day	Mon	Tues	Wed	Thurs	Fri	Sat	Sun
	No. of steps	2524	2088	3648	7509	574	758	769
	TotalAver	l weekly age dai	/ step co ly step co	unt: 17,8 ount: 2,5	70 53			
Self-Efficacy Walk Results (from Appointment 1)	 Number of steps taken (in 10mins): 1078 Borg scale when completed walk: 3 Number of rest periods needed during walk: None 							

(C) Case Scenario #3

Case Scenario #3

1. What goal would you set for this patient for the week ahead?

Points to consider:

- He walks an average of 2553 steps/day
- Explore if this is a typical week for him and specifically if Thurs was a typical day, i.e. is it a true baseline?
- Explore why was a lot more active on Thurs, and a lot less active $Fri \rightarrow Sun$
- Could this a boom and bust pattern? i.e. patient overdid it on Thurs and was too exhausted to be physically active on subsequent days
- He is able to walk 1078 steps in 10minutes, at a moderate-intensity pace.
- Important to emphasise the need for pacing throughout the week

- If the patient is confident a step goal could be: 1000 extra steps on 4 days
- If the patient is not confident a step goal could be: 800 extra steps on 3 days
- The target walking days should be selected by the patient

Demographics								
Male, aged: 47 Height: 180.5cm			Mass: 74kg BMI: 21.6					
Spirometry: FEV1: 1.69L, 43%	FVC: 4.14L		FEV1/FVC: 40.9%					
Baseline step count (from week prior to Appointment 1)	Day	Mon	Tues	Wed	Thurs	Fri	Sat	Sun
	No. of steps	2585	6793	3190	2420	5529	1278	663
	Total weekly step count: 22,458Average daily step count: 3,208							
Self-Efficacy Walk Results (from Appointment 1)	 Number of steps taken (in 10mins): 1099 Borg scale when completed walk: 5 Number of rest periods needed during walk: None 							

(D) Case Scenario #4

Case Scenario #4

1. What goal would you set for this patient for the week ahead?

Points to consider:

- He walks an average of 3208 steps/day
- Explore if this is a typical week for him, i.e. is it a true baseline?
- Explore why he is slightly more active on Tues and Fri (could this be his shift days?), and a lot less active on Sun
- He walked 1099 steps in 10minutes, but his BORG rating was 5.
- Consider discussing walking pace to encourage a more moderate-intensity pace, i.e. a BORG rating of 3

- If the patient is confident a step goal could be: 1000 extra steps on 4 days
- If the patient is not confident a step goal could be: 1000 extra steps on 3 days
- The target walking days should be selected by the patient he may opt to do his extra walking on his work days or he may wish to increase his activity levels on his non-work days.

Section 7: Time based walking programme

If the patient/site cannot provide a pedometer/smart phone APP to measure the patients step count:

 Use the following time-based sections (Walking diary familiarisation, Set a walking goal) at each appointment as applicable as an alternative to the 'Step diary familiarisation' and 'Set a step goal' sections.

Walking Diary Familiarisation (Time Based)

Instruct the patient how to record their walking in the walking diary (see sample patient walking diary below).

Each day record the time you have spent planned walking at the end of each day in the column labelled 'Time Walked.'

In the comments box record any comments about your activity on that particular day such as any changes in your usual habits.

Sample Patient Diary



Set a walking goal (Time Based)

In this section you will work with the patient to set and agree the **walking goal for the week ahead**.

1. Remind the patient of the main goal of LIVELY in COPD:

The main goal of this programme is to increase the amount of walking you do. This will be done by increasing the time you spend walking each week. (When walking it's important to feel moderately breathless, rating 3 on the BORG Scale, in order to gain most benefit).

- 2. Use the following factors as a point of reference to calculate the patient's initial goal:
 - Self-efficacy walk (time able to walk for/approximate distance covered)
 - BORG during self-efficacy walk
 - Rest periods needed during self-efficacy walk
 - Any other relevant information
- 3. Discuss the proposed walking goal with the patient. Explore whether they feel this is achievable. Give examples which are suitable for this patient.

When we did the short practice walk you managed to walk for ____ mins/the full 10mintes comfortably.

Keeping this in mind can you suggest a walking goal that you feel you could achieve over the next week? It's best to make it possible to achieve.

Depending on the capability and profile of the individual patient and the severity of their COPD, one of the following could be suggested to result in the patient walking at a moderate intensity.

- a. An additional 10minutes walking on 3 days of the week
- b. An additional 10 minutes walking on 5 days of the week
- c. An additional 5 minutes walking on 3 days of the week
- d. An additional 5 minutes walking on 5 days of the week
- 4. Assure the patient that this goal will be revisited next week depending on how they get on.

Help the patient to write their walking goal in their Diary (see Patient Materials) and make a note of this in the Patient Consultation Plan.

Section 8: Local walking resources

NICHSA have a walking route near you that you could perhaps use on your extra walking days.

There is additional information on the walkni and nichsa websites (see below) Walks in Northern Ireland: www.walkni.com

Highway to Health Walking Routes: www.nichsa.com/what-we-do/highway_to_health_routes/

Section 9: Advice on how to address potential walking programme complaints

1. Complaint: Musculoskeletal complaint – e.g. Ankle/foot/shin/calf muscle pain, hip bursitis, Achilles tendon tears, general fatigue, muscle soreness, blisters

Advice: If the patient cannot walk without significantly altering usual coordinated motion due to the pain, advise them to STOP. Advise them to take a few days rest and once pain has settled down, start back walking slowly, for short distances and gradually increase the distance and speed again.

2. Complaint: Muscular Chest Pain

Advice: A pulled or strained chest muscle can cause a great deal of pain that can be felt near the surface and can worsen with movement. Advise the patient that rest and time are the best treatment but to consult their doctor to be sure especially if the pain persists or worsens.

3. Complaint: Angina Pectoris

Advice: This type of chest pain can occur at rest, during exercise or after a heavy meal. It is a sensation of heaviness and often spreads to the shoulder, jaw, arm or hand. Advise the patient that if they experience any pain/discomfort resembling angina, particularly when walking, to contact their doctor immediately.

4. Complaint: Any other pain or discomfort associated with heart disease

Advice: These pains are varied but may be similar to angina. They can be mild, sharp or numbing. Symptoms signalling a heart attack can include an extreme heaviness, an extreme tightness or a feeling of stuffiness high in your stomach, chest or low in your throat. Advise the patient that if these symptoms occur, to get emergency medical attention.

5. Complaint: Increase in respiratory symptoms such as wheezing, shortness of breath

Advice: You may need to modify the amount of walking you do if your respiratory symptoms increase. For example, you may need to walk for shorter distances or walk more slowly and use your breathing techniques to help.

If your respiratory symptoms do not settle down you may want to contact the respiratory team or your GP.

6. Complaint: Other, e.g. symptoms which appear

Advice: Advise the patient that if they have any other unusual symptoms which occur and they are concerned and feel it may be related to their walking to please contact their GP.

Section 10: Frequently Asked Questions:

1. What do you do when the patient doesn't achieve their weekly step goal during the physical activity intervention?

Response: Refer to flow diagram 1: detailing scenarios of goal setting troubleshooting and correct action to take.

E.g. set the patient same goal as previous week, increase by a smaller step count than expected or repeat self-efficacy walk. Explore barriers to achieving set goal and introduce new strategies.

2. What do you do if the patient has an exacerbation, sickness or hospital admission during the physical activity intervention?

Response: Continue with programme as able and modify step goal in line with symptoms. Consider the patients activity over the period since the last consultation, the gap since the last consultation, review what to do if symptoms worsen or lessen.

3. What do you do if the patient has problems with carrying out their self-efficacy walk?

Response: If the pedometer doesn't record the steps during the self-efficacy walk then repeat it again if patient is able. If necessary check and readjust the position of the pedometer or change to a different one.

If the patient can only walk for 5 minutes (or a shorter time) of the 10 minutes allocated then that is the patients SE walk total steps. For example, 300 steps walked in 5 minutes before patient has to stop means their SE walk is 300 steps and this will be the step count used to set step goal.

4. How much lee- way we could allow between PAI visits if someone couldn't attend their consultation? (e.g. + or - 3 days).

Response: If there is a choice of 2 dates (a shorter than intended return date or a longer duration) the following should be considered.

- 1. Consider which date is closest to the desired date
- 2. Stage of intervention the patient is at e.g. week 2 versus week 7)
- **3.** Does the patient have a good understanding of the programme? If they have just started, you would not want to leave them without support for too long and therefore a shorter timeframe until their next visit would be advisable.
- **4.** Can you map out what to do for the next week at this stage, i.e. move to next week's diary, keep doing the same step count versus increase?
- 5. Did patient meet their goal the previous week, i.e. are they scenario 1, 2 or 3?)

5. What if the pedometer doesn't pick up when doing the 20 step test?

Response: This may be due to the persons walking speed being too slow/their mobility being poor or the pedometer being faulty.

If the pedometer doesn't record the steps during the self-efficacy walk then repeat it again if patient is able. If necessary check and readjust the position of the pedometer.

Ensure the patient is walking at the speed they would if they were waking on their own and repeat 20 steps.

If the pedometer still doesn't pick up the 20 steps, change to a different pedometer and try again if the patient is able.

6. What do I do if I don't have time to cover all the educational components at the visit?

Response: Highlight the sections that were not covered in the education section so they can be done at a later appointment. Focus on the education that links to the majority of the patient's key symptoms, e.g. pursed lip breathing for acute shortness of breath.

7. Do I need to bring the whole PAI file to each consultation?

Response: No, just lift out the section that is relevant to your consultation appointment, as well as the toolkit.

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