Health Professional Manual

Session 2

Energy Conservation

- Daily Activities that cause Fatigue
- Energy Conservation Principles
- Benefits of Exercise/Physical Activity

Adapted from the “Living Well with COPD” program (2nd edition), Montreal Chest Institute, Canada for Pulmonary Rehabilitation Programmes in Northern Ireland – 2011.
Energy Conservation

Education Plan and Methods
Session Length: 30-45 minutes

- Introduction
- Working Phase
  2. Daily Activities that cause fatigue and shortness of breath. *Group Discussion.*
     3.1 Introduction to the principles: Goal and benefits. *Interactive Lecturing.*
     3.2 Prioritise your activities. *Group Discussion.*
     3.3 Face yourself. *Group Discussion.*
     3.4 Plan your schedule. *Group Discussion.*
     3.5 Pursed-lip breathing technique: on exertion. *Demonstration and Practice.*
     3.7 Aids and appliances. *Interactive Lecturing.*
  5. Summary of the session and assessment of participants’ understanding and self-efficacy. *Group Discussion.*

- Closing of the session

Appendices section:
Appendix 1: Additional information
1. The link between COPD, fatigue and lack of energy
2. Positive attitude.

Human Resources
1. One health professional (recommended facilitator: occupational therapist or physiotherapist).

Living Well with COPD™ for Pulmonary Rehabilitation

Resources
1. Information Booklet (Page 34)
2. Key messages: Management of Breathlessness; Energy Conservation
3. Educational Posters:
   - Pursed-lip breathing to reduce shortness of breath
   - Breathing control to help relieve shortness of breath
   - Positions of ease to reduce shortness of breath
   - Energy conservation principles
   - Get moving… breathe easier

Additional Resources
1. Board / Flipchart
2. Bring examples of aids and appliances for demonstration purposes

Environment
1. Use a quiet and comfortable room for 10 to 15 people. Ensure proper ventilation.
2. Place the chairs in semi-circle around the facilitator

Adapted from the “Living Well with COPD” program (2nd edition), Montreal Chest Institute, Canada for Pulmonary Rehabilitation Programmes in Northern Ireland – 2011.
Introduction

- Presentation of the Facilitator.
- Outline the goals of this session.
- Review the key messages from the last session and link them to this session

Working Phase – Educational Interventions

1. Feedback from learning contract

1.1 FEEDBACK FROM LEARNING CONTRACT

*Demonstration and Practice*

Use the key messages “Management of Breathlessness” to support this section. You may also use the posters “Pursed-lip breathing to reduce shortness of breath”, “Breathing control to help relieve shortness of breath” and “Positions of ease to reduce shortness of breath” to support your teaching.

Evaluate how participants managed with practicing the breathing techniques from the last session.

**Suggested script for the Facilitator:**

In the last session we looked at different techniques that you could use to manage shortness of breath including:
- Pursed-lip breathing
- Breathing control
- Positions of ease

Your home-based activity was to practice one breathing technique every day.

**Suggested question:**

- Does anyone have any questions about any of the techniques?

Have participants practice the different breathing techniques in front of you according to the steps. Provide them constructive feedback and reinforcement on the performance of the techniques. Identify any participants having difficulty mastering the techniques who may require a one-to-one session with a physiotherapist.
ENERGY CONSERVATION
GROUP INTERVENTIONS FOR EACH PHASE OF THE SESSION

2. Daily Activities that cause fatigue and shortness of breath

2.1 IDENTIFICATION OF DAILY ACTIVITIES THAT CAUSE FATIGUE AND SHORTNESS OF BREATH

Identify with the participants the activities in their daily life that cause fatigue and shortness of breath. Ask each of the participants to identify one activity and write the answers in the board.

Suggested question:

• Which are the activities in your daily life that cause you fatigue and more shortness of breath?

3. Principles of Energy Conservation

3.1 INTRODUCTION TO THE ENERGY CONSERVATION PRINCIPLES: GOAL AND BENEFITS

Use the poster “Energy conservation principles” to support your teaching.

Explain to participants the importance of the application of the Energy Conservation Principles in their daily life.

Suggested script for the Facilitator:

Staying active and keeping up your routine is important when you have COPD. Learning how to manage your breathing when performing your day-to-day activities will help you save energy and prevent fatigue. Let’s look at some of the principles of energy conservation that you could use.

Goal:

• The aim of energy conservation is to help you be able to perform the daily activities that usually cause fatigue and shortness of breath.

Benefits:

• Minimise fatigue and shortness of breath.
• Be able to perform daily activities according to your level of energy.
3.2 PRIORITISE YOUR ACTIVITIES

*Present this section using Group Discussion*

Discuss with the participants about the application of this principle in their daily life. Ask questions to each of the participants and write the answers on the board.

**Suggested script for the Facilitator:**

**Prioritise your activities**

- Evaluate what you have to do and what you would love to do.
- Eliminate activities that are not necessary.
- Do not forget to do activities that help you relax and recharge.

**Possible discussion questions:**

- Which activities do you consider necessary?
- Which activity helps you to relax and to recharge?
- Which activities could you eliminate or get somebody else do for you?

**Note to the facilitator:** Talk about the importance of leisure activities. This is an area that patients frequently disregard when trying to prioritise.
ENERGY CONSERVATION

GROUP INTERVENTIONS FOR EACH PHASE OF THE SESSION

3.3 PACE YOURSELF

Present this section using Group Discussion

Discuss with the participants about the application of this principle in their daily life. Use Attachment 1 (Cue card: Pacing yourself) to support your teaching.

Suggested questions:

- What “speed” did you operate at before you developed COPD, i.e. high, medium or low?
- Is it hard for you to slow down?
- What strategies might help you to slow down?

Suggested script for the Facilitator:

Pace yourself

- Understand your limits and respect them.
- Avoid rushing, even if you are the type of person who finds it hard to slow down.
- Alternate heavy and light tasks, e.g. don’t go grocery shopping the same day you’re vacuuming (Attachment 1).
- Do not try to do everything at once.
- Break up difficult tasks into smaller steps.
- Include relaxation breaks in your schedule.
- Get a good night’s sleep.
- Slow down your pace: a slower and regular pace uses up less energy.
ENERGY CONSERVATION
GROUP INTERVENTIONS FOR EACH PHASE OF THE SESSION

3.4 PLAN YOUR SCHEDULE

Present this section using Group Discussion

Discuss with the participants about the application of this principle in their daily life and link with the principles of prioritising and pacing. Ask questions to each of the participants and write the answers on the board.

Suggested script for the Facilitator:

Plan your schedule

- Stay active within your limits.
- Plan a realistic schedule for the day, week or month.
- Try to get a sense of the times of the day when you have the least and most amount of energy.
- Try to schedule the activities that need more energy (e.g. grocery shopping, medical appointments, vacuuming), at the time of day you have the most energy.

Possible discussion questions:

- What time of day do you have MOST energy?
- What time of day do you have the LEAST?

3.5 PURSED-LIP BREATHING TECHNIQUE: ON EXERTION

Demonstration and Practice

Use the poster “Pursed-lip breathing to reduce shortness of breath” to support your teaching.

3.4.1 Demonstrate the use of the pursed-lip breathing technique with activities requiring effort.

Suggested script for the Facilitator:

Pursed-lip breathing technique – on exertion

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 a 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:

Adapted from the “Living Well with COPD” program (2nd edition), Montreal Chest Institute, Canada for Pulmonary Rehabilitation Programmes in Northern Ireland – 2011.
ENERGY CONSERVATION

GROUP INTERVENTIONS FOR EACH PHASE OF THE SESSION

<table>
<thead>
<tr>
<th>WALKING</th>
<th>CLIMBING STAIRS</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Breathe in and count each step 1…2….</td>
<td>(If stairs are not available for demonstrating, walk on the spot simulating</td>
</tr>
<tr>
<td>• Breathe out and count each step 1…2…3….4</td>
<td>stair climbing)</td>
</tr>
<tr>
<td>Ensure that your breath out is longer than your breath in.</td>
<td>If you suffer from severe shortness of breath:</td>
</tr>
<tr>
<td>Suggestions</td>
<td>• Breathe in at rest.</td>
</tr>
<tr>
<td>• Walk only as fast and as far as you can while respecting your own</td>
<td>• Climb one step while breathing out, and stop for breathing in. Repeat for</td>
</tr>
<tr>
<td>limits.</td>
<td>each step.</td>
</tr>
<tr>
<td>• Do not hold your breath.</td>
<td>If you are able to climb some steps:</td>
</tr>
<tr>
<td></td>
<td>• Breathe in at rest.</td>
</tr>
<tr>
<td></td>
<td>• Climb 3-4 steps while breathing out, stop for breathing in.</td>
</tr>
<tr>
<td></td>
<td>If you are able to climb at least a flight of stairs:</td>
</tr>
<tr>
<td></td>
<td>• Breathe in at rest.</td>
</tr>
<tr>
<td></td>
<td>• Climb 3-4 steps while breathing out.</td>
</tr>
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<td></td>
<td>• Climb 2 steps while breathing in.</td>
</tr>
<tr>
<td></td>
<td>• Climb 3-4 steps while breathing out, etc.</td>
</tr>
<tr>
<td>Suggestions</td>
<td>Suggestions:</td>
</tr>
<tr>
<td></td>
<td>• Climb slowly.</td>
</tr>
<tr>
<td></td>
<td>• Do not force your breath out.</td>
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</tbody>
</table>

Have participants practice in front of you (walking, climbing stairs) according to the steps, while integrating the pursed-lip breathing technique. Provide them constructive feedback and reinforcement on the performance of the techniques learned.

3.4.2 Demonstrate to participants the coordination of breathing with the movements that require an effort.
Use Attachment 2 (Cue card: “Blow-as-you-go”) to support your teaching.

Suggested script for the Facilitator:
• 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” (Attachment 2)
• 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.

Demonstrate these exercises with examples related to daily life activities: picking up objects from the floor, opening a heavy door, hanging clothes, putting on shoes, etc. Ask the participants to demonstrate back the exercises. Provide them constructive feedback and reinforcement on the performance of the exercises.
**ENERGY CONSERVATION**

**GROUP INTERVENTIONS FOR EACH PHASE OF THE SESSION**

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### 3.6 POSITIONING

#### 3.5.1 Demonstration and Practice

**Suggested question:**

- Which kinds of movements cause you more shortness of breath or fatigue?

**Suggested script for the Facilitator:**

**Positioning yourself:**

- Be aware of your body position when performing an activity.
- Be aware of what movements (e.g. bending or reaching) cause you more shortness of breath or fatigue and try to avoid them if possible.
- Try to work with your elbows and/or forearms supported, as you would in a position of ease.
- Work at a height that allows you to keep a good posture.
- Try to perform most of your activities while sitting (you will use less energy sitting than standing). You may find a shower seat or perching stool useful.
- Avoid carrying heavy objects. Pushing, pulling or sliding objects is less demanding.
- When you must carry something heavy, hold it as close to your body as possible.

Demonstrate two of the techniques, as they are described in attachment 3, presenting one example for each type of movement. Ask the participants to demonstrate back the movements. Provide them constructive feedback and reinforcement on the performance of the techniques.

#### 3.5.2 Present this section using Group Discussion

**Suggested question:**

- What can you do with your home environment to help you save energy?

**Suggested script for the Facilitator:**

**Organise your environment**

- See how you can arrange the storage spaces in your house to reduce the need for reaching and bending.
- Try duplication for things used most often, e.g. if you live in a two-story house, keep a set of cleaning products upstairs as well as downstairs.
- Ensure storage areas are set at a comfortable height – between your waist and shoulders – especially for heavy objects or those most often used.
3.7 AIDS AND APPLIANCES

Present this section in an interactive way

Use examples of aids and appliances to support your teaching.

Discuss with the participants about the use of aids and appliances to conserve energy in their daily life.

Suggested script for the facilitator:

Aids and appliances:

- There are a number of aids and appliances available that can help you complete your daily activities. Examples of aids and appliances include:
  - Shoe horns can help you put on your shoes without the need for bending over.
  - Using a shower seat while washing uses less energy than standing in the shower.
  - Railings on steps and stairs are important for safety.
  - Using a Rollater when walking can help reduce shortness of breath and improve balance.
- If you feel you may need an aid or appliance that could help you complete your daily activities, please speak to a member of the pulmonary rehabilitation team. They will help you find out where or how you can get them.

Note to the facilitator: Ensure that you have information and contact details on the resource table for patients informing them where they can access smaller aids and appliances, for example shoe horns, kettle tippers.
4. Benefits of Exercise/Physical Activity in COPD

4.1 BENEFITS OF EXERCISE/PHYSICAL ACTIVITY IN COPD

Present this section in an interactive way

Use the poster “Get moving… breathe easier” to support your teaching.

Present the goal and benefits of exercise and physical activity to participants.

Suggested script for the Facilitator:

Many people with COPD avoid exercise and physical activity as they think they are too poorly. Being active is important in order to prevent breathlessness and fatigue from becoming worse. It is essential for your physical and mental well-being. Even doing a small amount can help – as long as it’s done on a regular basis.

Suggested question:

• Do you believe someone who has COPD can do physical activity?

Suggested script for the Facilitator:

Exercise and physical activity are important if you have COPD. When you move around doing everyday things your body needs more oxygen. Normal lungs can deliver oxygen efficiently during exercise and physical activity but if you have COPD the lungs are less efficient so you can feel breathless. However, doing even a small amount can help your breathing be more efficient.

Goal:

• The aim of exercise and physical activity is to improve or maintain activity levels.

Benefits:

1. Reduces shortness of breath and improves the efficiency of the lungs and heart
2. Improves overall quality of life
3. Improves mood and reduces the risk of depression
4. Improves functional abilities
5. Helps control weight, blood pressure and cholesterol levels
6. Helps maintain bone mass
7. Boosts the immune system
8. Increases muscle mass and endurance
9. Improves balance, which could help reduce the risk of falling

Suggested question:

• How do you think you could add exercise or physical activity into your daily routine?
5. Summary of the session and assessment of participants’ understanding and self-efficacy

5.1 SUMMARY OF THE SESSION AND ASSESSMENT OF PARTICIPANTS’ UNDERSTANDING AND SELF-EFFICACY

Evaluate participants’ understanding and self-efficacy to save their energy by using energy conservation principles in their lives. Use this opportunity to summarise the key messages of the session. Use Attachment 4 (Key messages: Energy Conservation) to support your teaching.

Suggested question:

• Do you feel able to pace yourself to conserve energy (e.g. plan activities, alternate light and heavy tasks)?

• How confident are you that you know how to get aids and appliances if you need them (e.g. shoe horn, shower seat)?

• How well do you understand the benefits of exercise?

• How confident are you that you can take part in exercise?

Suggested script for the facilitator:

• Learning how to manage your breathing when doing your day-to-day activities will help you save energy and manage fatigue.

  Some of the techniques you can use include
  – Pace yourself and avoid rushing.
  – Alternate activities that you find more difficult with ones you find easier.
  – Do the activities that you need more energy for at the time of day you have the most energy.
  – Breathe out when effort is needed, for example when lifting heavy objects.

• Some people may need aids and appliances to help with their daily activities. If you would like information about these, please speak to a member of the pulmonary rehabilitation team. They will help you find out where or how you can get them.

• Including exercise or physical activity in your life is important. Even doing a small amount of exercise or physical activity, as long as it is done on a regular basis, can help manage breathlessness and fatigue.
Note to the facilitator: Inform participants that the key messages from this session are summarised on their key messages sheet (attachment 4) and additional information can be found in their information booklets (Page 34).

If participants feel confident conserving their energy, accessing aids and appliances or taking part in exercise ask them to continue applying the strategies taught in this session.

Discuss with the participants about the possibility of asking for help if using energy conservation principles do not enable them to complete their daily life activities (involve each of the participants in the discussion).

If some participants still do not feel confident conserving their energy, accessing aids and appliances or taking part in exercise, ask them to speak to a member of the pulmonary rehabilitation team on an individual basis to investigate the reasons and reinforce the use of the strategies taught in this session.

Closing the session

- Answer the questions of the participants.
- **Learning contract:** Ask the participants to review and practice each day at home each one of the different energy conservation strategies; also ask them to complete the “Week-schedule”, Attachment 5.
- Ask participants to bring their own written action plan to the next education session, if they have one.
- Evaluate the satisfaction of the participants with regards to the present session.
Pacing yourself

In order to conserve your energy and manage shortness of breath alternate exercises that you find more difficult with ones you find easier.
“Blow-as-you-go”

To help manage your breathing, breathe out when effort is needed, for example when lifting weights.
ENERGY CONSERVATION
ATTACHMENTS

Attachment 3:

POSITION YOURSELF AND YOUR ENVIRONMENT TO SAVE ENERGY

POSTURE

• When you remain in one position for extended periods of time, blood flow is reduced and pressure increased on the joints.

• There is no “correct” posture to keep for an entire day. The human body needs change and mobility.

• In general work should be done at elbow height, whether sitting or standing. However heavier work should be done lower, and light precision work, higher. Keep elbows in at your side.

STANDING

• Proper alignment reduces energy expenditure. When your spine is in alignment, a plumb-line should pass through ear, shoulder joint, hip joint, behind knee and through the arch of your feet.

• When standing and lifting, keep your feet shoulder width apart.

• When standing for long periods of time, place one foot on a bench or low shelf to relax your back.

SITTING

• If tired standing, try sitting to work. You use 25% less energy when sitting than in standing.

• If short of breath, lean forward and support your forearms.

• Many grooming and kitchen tasks can be done while sitting with arms supported.

• Avoid sitting on deep or low chairs that are difficult to get out of.

• If it’s difficult to sit while doing certain tasks try leaning against a higher stool. This can reduce the effort of standing as well as eliminate the effort of getting in and out of a chair.

REACHING

• Remember to breathe out when effort is required: Breathe in, then breathe out as you reach.

• When tired or short of breath, avoid unsupported arm movements i.e. reaching up, washing hair.

• Many long handled technical aids exist to help you to avoid reaching and bending (i.e. long handled reacher, sponge, shoehorn, duster and dustpan etc.).
ENERGY CONSERVATION

ATTACHMENTS

BENDING

- Bend your knees and keep your back in alignment.
- Stabilise yourself by holding on to the chair seat or counter.
- Instead of bending, try kneeling (use a kneeling pad) or sitting on a secretary chair (on wheels) when performing work at a lower level.
- Remember breathe out when effort is required: Breathe in, then breathe out as you bend.

LIFTING

- If possible, avoid lifting. Sliding, pushing, and pulling all use less energy.
- If you do have to lift, keep stomach muscles firm and maintain wide base of support.
- Keep items close to the body when lifting or carrying.
- Use legs for lifting (instead of your back!).
- Pivot your feet, don’t twist your back, if you need to turn while lifting.
- Remember breathe out when effort is required: Breathe in, then breathe out as you lift.

CARRYING

- Balance the weight. Try putting objects into bags that can be carried on either side.
- Try wearing a backpack.
- Remember to breathe slowly and evenly, breathing in deeply and breathing out through pursed lips.
- If too short of breath, use a trolley or shopping cart to transport heavy loads.

PUSHING

- Place hands firmly on object.
- Bend knees slightly, keep back aligned and direct force toward destination. The force should come from the hips and ankles.
- When vacuuming or sweeping, move your feet and legs rather than reaching or bending forward.
- Remember to breathe out when effort is required: Breathe in, then breathe out as you push.

ORGANISE YOUR SPACE

- Arrange commonly used items between waist and shoulder height to reduce the need to bend over or reach up.
- If you live in a two-story home, keep duplicates of frequently used objects (like cleaning supplies, urinal) upstairs and downstairs.
Energy Conservation

Key Messages

• Learning how to manage your breathing when doing your day-to-day activities will help you save energy and manage fatigue. Some of the techniques you can use include:
  – Pace yourself and avoid rushing.
  – Alternate activities that you find more difficult with ones you find easier.
  – Do the activities that you need more energy for at the time of day you have the most energy.
  – Breathe out when effort is needed, for example when lifting heavy objects.

• Some people may need aids and appliances to help with their daily activities. If you would like information about these, please speak to a member of the pulmonary rehabilitation team. They will help you find out where or how you can get them.

• Including exercise or physical activity in your life is important. Even doing a small amount of exercise or physical activity, as long as it is done on a regular basis, can help manage breathlessness and fatigue.
**Attachment 5: WEEK SCHEDULE**

<table>
<thead>
<tr>
<th></th>
<th>MORNING</th>
<th>AFTERNOON</th>
<th>EVENING</th>
</tr>
</thead>
<tbody>
<tr>
<td>MONDAY</td>
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<td>TUESDAY</td>
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<td>THURSDAY</td>
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<td>FRIDAY</td>
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<td>SATURDAY</td>
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<tr>
<td>SUNDAY</td>
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</tbody>
</table>

This is one example of your schedule. Try to balance your activities within the week taking into account the level of energy needed by each of them (especially heavy tasks). Do not forget to plan for your leisure activities.
1. The link between COPD, fatigue and lack of energy

1.1 UNDERSTANDING THE LINK BETWEEN COPD, FATIGUE AND LACK OF ENERGY

Present this section in an Interactive Way

To support your teaching, use the poster of the “Anxiety-Breathlessness cycle”.

Present the Anxiety-Breathlessness Cycle in COPD. Emphasise the role of fatigue in this vicious cycle.

Suggested script for the facilitator:

- The main symptom of COPD is shortness of breath.
- Shortness of breath can cause anxiety and even panic attacks.
- Anxiety makes you breathe faster, which increases your shortness of breath and as a result, you become more anxious.
- Many COPD sufferers choose to stop doing activities because of their fear of dying from breathlessness.
- The less you do, the less you are in shape. You will experience more fatigue, shortness of breath and anxiety.
- This is the Anxiety-Breathlessness cycle.
2. Energy Conservation Principles

2.1 MAINTAINING A POSITIVE ATTITUDE

Discuss with the participants about the application of this principle in their daily life. Ask questions to each of the participants and write the answers on the board.

Suggested script for the facilitator:

Positive attitude:

- Try to be patient and tolerant towards yourself and your family and friends.
- Keep your sense of humour.
- Visualise yourself as a person who makes the most of what they have, rather than as a victim of your disease.

Possible discussion questions:

- How are you coping with your illness?
- Do you find it hard to maintain a positive attitude?
- Do you have a tendency to get frustrated, depressed or irritated with others?
ACKNOWLEDGEMENTS

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Adaptation from the “Living Well with COPD” program (2nd edition), Montreal Chest Institute, Canada for Pulmonary Rehabilitation Programmes in Northern Ireland – December 2011

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Living Well with COPD
Chronic Obstructive Pulmonary Disease
A plan of action for life
For Pulmonary Rehabilitation
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