Pulmonary Rehabilitation Guidelines for Australia and New Zealand

Jennifer Alison
CLINICAL PRACTICE GUIDELINES

Australian and New Zealand Pulmonary Rehabilitation Guidelines

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COPD

- New Zealand
  - 14% adults over 40 years have COPD (Telfar B 2015)
  - Cost: $NZ 5.6 billion ($484 million in direct health system expenditure) (Telfar B 2015)
  - Māori: 4.4 x higher hospitalisation
  - 2.2 x higher deaths (Milne RJ 2015)
Pulmonary Rehabilitation

- Key component of COPD management (Yang I 2016, COPD-X)
- ↓ symptoms - breathlessness and fatigue
- ↓ exercise capacity
- ↑ quality of life (McCarthy 2015)
- ↓ hospital readmissions (Puhan 2016)
- ↓ length of stay
Why do we need guidelines?

- **Statement (ATS/ERS)** about what should be included but not an evidence-based guideline (Spruit AJRCCM 2013)

- Evidence-based guidelines published in other countries:
  - British Thoracic Society (Bolton 2014)
  - Canadian Thoracic Society (Marciniuk 2010)

- What we had already developed in Australia - a practical resources

- Support future initiatives
  - MBS item number (currently under review)
Why do we need guidelines?

- Health care context affects delivery

Australia and Europe area size comparison
Aim

To provide evidence-based recommendations for the practice of pulmonary rehabilitation (PR) specific to Australian and New Zealand healthcare contexts
Methods

• Guideline Panel: 28 health professionals (11 lead experts)
• 9 PICO questions considered as most important in ANZ context.
• Systematic review methodology for all questions (unless recent SR)
  – Meta-analyses for Aust/NZ context where possible
• Search strategies (librarians USYD and LaTrobe)
  – Definition of PR to guide searches:

  Any in-patient, out-patient, community-based or home-based rehabilitation programme of at least four weeks’ duration that included exercise therapy with or without any form of education and/or psychological support delivered to patients with exercise limitation attributable to COPD (McCarthy 2015)
Inclusion of studies

• RCTs, systematic reviews of PR
• Had to report at least one pre-specified outcome of interest
  – Exercise capacity
  – HRQoL
  – Health care utilisation
  – Anxiety and depression
  – Mortality
Moving from evidence to recommendation – GRADE

• Each recommendation rated (based on GRADE criteria) for:
  – Quality of evidence: strong, moderate or low

• Strength of recommendation – strong or weak- considered 4 factors:
  – Trade-offs between desirable and undesirable outcomes
  – Confidence in estimates of effect (quality of evidence)
  – Values and preferences of patients
  – Resource implications

(Andrews J, 2013)
<table>
<thead>
<tr>
<th>Implication for:</th>
<th>Strong Recommendation</th>
<th>Weak Recommendation</th>
<th>‘In research’ recommendation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patients</td>
<td>Almost all individuals in this situation would want the recommended intervention, and only a small proportion would not.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clinicians</td>
<td>Almost all individuals should receive the intervention. Adherence to this recommendation according to the guideline could be used as a quality criterion or performance indicator. Formal decision aids are not likely to be needed to help individuals make decisions consistent with their values and preferences.</td>
<td></td>
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</table>
PICO QUESTIONS AND RECOMMENDATIONS
<table>
<thead>
<tr>
<th>PICO question</th>
<th>Recommendation: <em>PR should be provided for...</em></th>
<th>Strength</th>
</tr>
</thead>
</table>
| Is pulmonary rehabilitation effective compared with usual care in people with COPD? | a) people with **stable** chronic obstructive pulmonary disease (COPD)  
   b) people after an **exacerbation** of COPD, within two weeks of hospital discharge  
   • Exercise capacity, HRQoL, readmissions | Strong  
   Weak  |
• Despite benefits of PR
• < 5-10% of mod-severe COPD participate in PR (AIHW 2013)
• Barriers include:
  – transport (Keating A 2011)
# PICO question

<table>
<thead>
<tr>
<th>Setting</th>
<th>Recommendation: <em>PR should be provided for...</em></th>
<th>Strength</th>
</tr>
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<tbody>
<tr>
<td>Hospital OPD</td>
<td></td>
<td></td>
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<tr>
<td>Home</td>
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<tr>
<td>Community</td>
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</tbody>
</table>

**Setting**
- Hospital OPD
- Home
- Community

**Exercise capacity, HRQoL, breathlessness**
- Weak
- Weak
- Weak

**Structured education**
- Setting
  - Hospital OPD
  - Home
  - Community
PICO QUESTIONS
NO RECOMMENDATIONS
<table>
<thead>
<tr>
<th>PICO question</th>
<th>Recommendation:</th>
<th>Strength</th>
</tr>
</thead>
<tbody>
<tr>
<td>Are programs of longer duration more effective than the standard eight-week programs?</td>
<td>No recommendation- lack of evidence</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Exercise capacity, HRQoL</td>
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</table>
What’s new in the guidelines?

- Recommendation for home- and community-based PR
- Recommendation for PR in people with mild COPD (symptoms)
- Clear statement that monthly maintenance programs are not useful
- Permission to deliver PR without a structured education program
- Recommendation for PR in people with bronchiectasis, ILD and pulmonary hypertension, in the right setting
What do the guidelines mean for patients, clinicians and policy makers?

• In people with COPD, compelling evidence for meaningful benefits from PR provides a strong mandate to improve access, referral and uptake
• To deliver on this will require multiple strategies:
  – Patients have better understanding of role and likely benefits
  – Clinicians know how to refer, and do so more often
  – Programs more readily available and accessible
  – Quality standards against which we can evaluate effectiveness
For Australia and New Zealand context

- Weak recommendations for new models of pulmonary rehab (eg home-based, community-based) have potential to improve access for people living away from major centres
For Australia and New Zealand context

- Indigenous Australian and New Zealand communities have disproportionate disadvantage from COPD
  - Important to improve pulmonary rehab access
  - Greater efforts required to ensure safe cultural environments for delivery of pulmonary rehab
  - In NZ, attendance enhanced by
    - pulmonary rehab provided for Māori by Māori organisations
    - information and communication in a common Māori language (Levack VM 2016)
Limitations of the guidelines

• Only addressed a selected number of PICO questions
• Other important questions for pulmonary rehab in Aust and NZ may not have been answered
• Some examples:
  – Role of self management training
  – Components of exercise training
  – Role of nutritional supplementation
  – Inclusion of people with asthma, lung cancer, cystic fibrosis
  – Repeating pulmonary rehab
Conclusions – new PR guidelines

• Strong recommendation that people with COPD undertake pulmonary rehab to improve exercise capacity, HRQoL and avoid hospitalisation
  – No surprise, but mandates renewed efforts to improve access and uptake
• Weak recommendations for new models of pulmonary rehab, and rehab in new populations
  – May prompt changes to the pulmonary rehabilitation model
• Watch this space for new developments around quality standards and MBS item number
Acknowledgements

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Tēnā koutou