LUNG FOUNDATION AUSTRALIA
"When you can't breathe... nothing else matters"®

The Thoracic Society of Australia & New Zealand
LEADERS IN LUNG HEALTH

Pulmonary Rehabilitation Guidelines for Australia and New Zealand

Jennifer Alison

Official Journal of the Asian Pacific Society of Respirology
Respirology

CLINICAL PRACTICE GUIDELINES

Australian and New Zealand Pulmonary Rehabilitation Guidelines

JENNIFER A. ALISON,[1,2] ZOE J. MCKEOUGH,[1] KYLIE JOHNSTON,[3,4] RENAE J. MCNAMARA,[5,6] LISSA M. SPENCER,[7] SUE C. JENKINS,[8,9,10] CATHERINE J. HILL,[11,12] VANESSA M. MCDONALD,[13] PETER FRITH,[14,15] PAUL CAFARELLA,[16,17] MICHELLE BROOKE,[18] HELEN L. CAMERON-TUCKER,[19,20,21] SARAH CANDY,[22] NOLA CECINS,[8] ANDREW S.L. CHAN,[23,24] MARITA T. DALE,[25] LEONA M. DOWMAN,[26] CATHERINE GRANGER,[27,28] SIMON HALLORAN,[29] PETER JUNG,[30] ANNEMARIE L. LEE,[31] REGINA LEUNG,[32] TAMARA MATULICK,[33] CHRISTIAN OSADNIK,[34] MARY ROBERTS,[35,36] JAMES WALSH,[37,38] SALLY WOOTTON,[39] ANNE E. HOLLAND[12,31,40] on behalf of the Lung Foundation Australia and the Thoracic Society of Australia and New Zealand

Alison et al, *Respirology* 2017; 22 (4):800–819

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

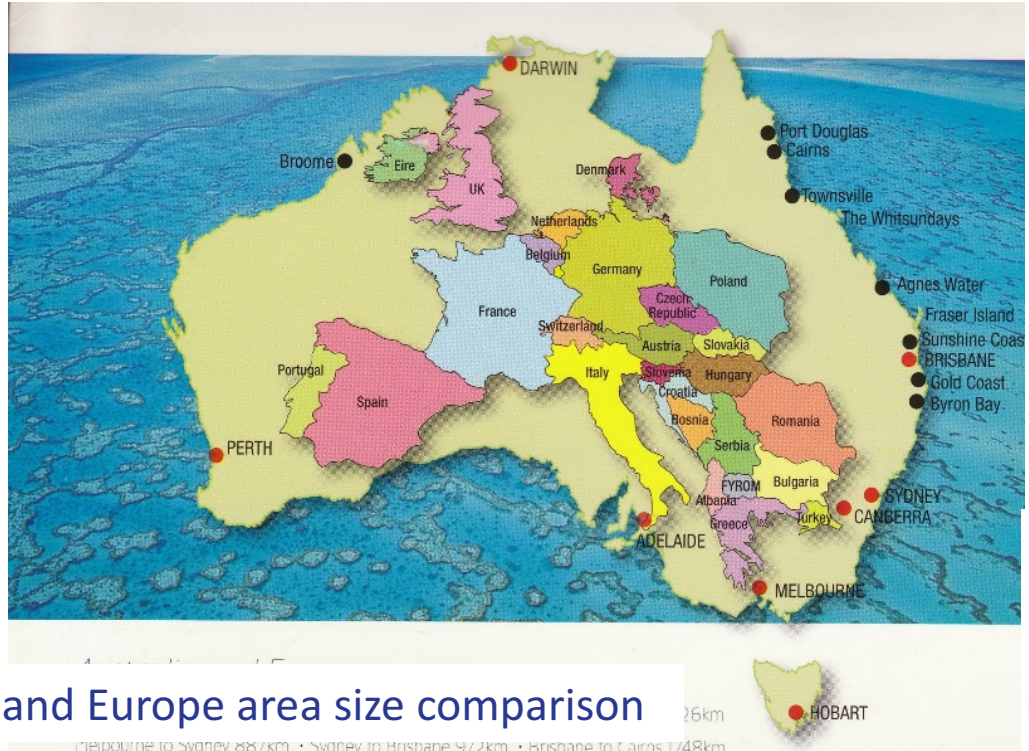
- Key component of COPD management (Yang I 2016, COPD-X)
- ↓ symptoms - breathlessness and fatigue
- ↑ exercise capacity
- ↑ quality of life (McCarthy 2015)
- ↓ hospital readmissions (Puhan 2016)
- ↓ length of stay

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
  - Pulmonary Rehabilitation Toolkit www.pulmonaryrehab.com.au
- 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)

Implication for:	Strong Recommendation	Weak Recommendation	'In research' recommendation
Patients	Almost all individuals in this situation would want the recommended intervention, and only a small proportion would not.		
Clinicians	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.		

PICO QUESTIONS AND RECOMMENDATIONS

PICO question	Recommendation: *PR should be provided for…*	Strength
Is pulmonary rehabilitation effective compared with usual care in people with COPD? a) McCarthy 2015, Cochrane b) Puhan 2016, Cochrane	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	Recommendation: *PR should be provided for……*	Strength

Setting

Hospital OPD

Home

Community

PICO QUESTIONS
NO RECOMMENDATIONS

PICO question	Recommendation:	Strength
Are programs of longer duration more effective than the standard eight-week programs?	No recommendation- lack of evidence • Exercise capacity, HRQoL	

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

PR Guideline Panel (28), LFA, Librarians

Expert Advisory Panel: Christine Jenkins, Christine McDonald, Ian Yang, Kerry Hancock

TSANZ, Reviewers Australia and New Zealand

Tēnā koutou