Bronchiectasis: a community perspective

Moving towards self-management. What physiotherapy has to offer?

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Overview

• Physiotherapy:
  – Management of bronchiectasis (Bx)
  – Across the age and disease continuum
• Education, negotiation and navigation
• Self-management
• Engaging and connecting:
  – Individuals and communities
  – Resources and research
Physiotherapy in BX

Recommendation 16
Airway clearance manoeuvres are recommended and a chest physiotherapist’s advice should be sought. Chest physiotherapy should be individualised.

Grade: strong; evidence: moderate

Recommendation 17
Adults with CSLD/bronchiectasis and moderately severe, limited exercise tolerance and/or evidence of physical deconditioning should receive pulmonary rehabilitation.

Grade: strong; evidence: moderate

Recommendation 18
Regular physical activity is recommended for children and adults with CSLD/bronchiectasis.

Grade: strong; evidence: high

Chang et al. (2010)
Physiotherapy management

Polverino et al. (2017), ERS guidelines for the management of adult bronchiectasis
Physiotherapy management in New Zealand

Polverino et al. (2017), ERS guidelines for the management of adult bronchiectasis
What do these techniques/devices look like?

Postural drainage; https://clinicalgate.com

Acapella® Choice Vibratory PEP
https://www.smiths-medical.com

TheraPEP device
http://www.henleysmed.com

Active cycle of breathing
http://pcdsupport.org.uk

High frequency chest wall oscillator
http://www.steomedical.com
What does the evidence say?

PEP therapy vs other airway clearance techniques for BX
Cochrane Review

Lee, Burge & Holland (2017)

9 studies involving 213 participants

PEP therapy ‘appears’ to have similar effects on HRQoL, SOB, sputum and lung volumes compared to other ACTs

- Quality of evidence low; few studies
- Additional information required to:
  - Establish long-term clinical effects that are important to people with Bx
  - Clinical parameters which impact on disease progression and patient morbidity
Active cycle of breathing techniques vs Acapella

Airway clearance in Bx: a randomised crossover trial of active cycle of breathing techniques versus Acapella

Patterson et al. (2005)

Study design:
• 20 patients age 58+/- 11 years
• Outcomes: spirometry, SpO2 and breathlessness, sputum weight, number of coughs and patient preference

Findings:
• No significant difference between sputum weight
• A greater proportion of patients preferred Acapella 14/20
Retrospective review of 224 children with Bx at Starship

Rensford et al. (2017)

Study population:
123 males/91 females with median age of 9.1 years
Largely Pacific Island 43.7% and Maori 29%
63% had 2 lobes affected and 58% had 3 lobes

Physiotherapy:
Under 5 years – chest percussion (n = 40; 86.9%)
Over 5 years - PEP device (n = 132; 75%)
3 children - high frequency chest wall oscillator
Potential benefits of the Bx registry...

Drawing on the CF literature....

Airway clearance techniques used by people with CF in the UK
Hoo et al. (2015)

Study design:
Review of UK CF registry (2011) of 6372 people > 11 years

Findings:
- 89% used airway clearance techniques
- Most commonly used primary techniques:
  - Forced expiratory techniques (28%); Oscillating PEP (23%);
- 2:1 ratio of male:female ratio used exercise as their primary technique
Exercise

Effects of pulmonary rehabilitation in Bx: A retrospective study
Ong et al. (2011)

Uptake of PR in NZ by people with COPD in 2009
Levack et al. (2011)

No data on availability of formal exercise programmes for children with Bx
Rensford (2017)
Sedentary behaviour is the new epidemic

Physical inactivity, sedentary behaviour & chronic diseases

González et al (2017)

https://techcrunch.com
Non-adherence and non-attendance

https://ww2.kqed.or

https://showmeinstitute.org
What are the barriers?

Access to healthcare

“Getting time off work... I just have to arrange it better... time is a bit of a nuisance”. (participant 2)

For one mum, the father ... earns more so he works, while she looks after the children and studies.

“I try not to get him involved too much... I manage” (participant 3)

Jepsen, N. (MPH candidate, AUT)

https://www.forbes.com
What are the barriers?

**Airway clearance techniques:**
Multi-system issues: 43% perceived barriers / 53% non-adherence
- Inconsistent /ineffective use of technique/device
- Too busy / time consuming
- Resistance to cough/expectorating
- Poor understanding of ACT / no immediate results  
  Zanni et al. (2012)

**Urinary stress incontinence:**
- Affects between 48% of females with BX  
  Prys-Picard (2006)
- Duplicated results in CMH physiotherapy practice audit  
  Mooney (2012)
  – Also evident during airway clearance techniques and spirometry

**Physical activity:**
- Exercise is NOT enjoyable
- People do NOT see immediate benefits from exercise
- Exercise is OFTEN thought of as activity you do at a special facility
- People DON’T want to make time for exercise  
  Prapavessis (2016)
Reframing our thinking

Towards self-management: evidence based practice

Best Research Evidence

- Clinically relevant research
- Conducted using sound methodology

https://richmondcc.libguides.com/EBPnursing
Towards self-management: evidence based practice

Clinical Expertise + Best Research Evidence

Clinician’s Cumulated:
- Experience
- Education
- Clinical Skills

- Learning and teaching Skills

- Clinically relevant research
- Conducted using sound methodology

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Towards self-management: evidence based practice

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Patient Values and Preferences

- Personal
- Preferences
- Unique Concerns
- Expectations
- Values
- CULTURAL considerations

https://richmondcc.libguides.com/EBPnursing
Understanding, negotiating and navigating

‘Ideal’ management

SELF MANAGEMENT

System measures

‘Realistic’ management

ENGAGEMENT

Individual goals activity & participation

http://www.asianinvestor.net
Who is in control? Clinicians’ view on their role in self-management approaches: a qualitative meta-synthesis.

Mudge, Kayes & McPherson (2015)

Study design:
Review of 41 healthcare studies

Findings:
• Delivering self-Mx in practice appeared to be a complex process for clinicians
• Three core themes:
  • Clinicians talked of exercising control over patients and their behaviour
  • An essential transformation of practice experienced by some clinicians
  • A range of challenges associated with shifting towards a self-Mx
Connecting individuals with communities

Employer

WINZ

Charity

Education providers

Corrections Department

Family/whanau/church

GP/practice nurse/receptionists

Labtests and Radiology

Person/client/patient

Pharmacy

Sleep clinic / walk-in CPAP clinic

Appointment schedulers

Respiratory physician & cardiologist

http://dmap.com.au
Connecting communities with resources

Bronchiectasis Foundation

Bronchiectasis Toolbox

Health Navigator

Australian / British Lung Foundations

Asthma and Respiratory Foundation NZ

Pulmonary Rehab Toolkit

https://gradcenter.arizona.edu
Connecting communities with technology

https://healthitsecurity.com

https://usafitnesstracker.com
• Young people’s day to day life experience living with Bx. What matters most?  
  Blamires J. (Doctoral candidate, AUT)

• The experiences of accessing health care for families of children with Bx in CMH: A qualitative study.  
  Jepsen, N. (MPH candidate, AUT)

• Prevalence of urinary stress incontinence in females attending the Bx clinic (practice audit)  
  Mooney, S.

• NZ resident Tongan health and illness beliefs about Bx and healthcare management. (grant application submitted)  
  Mooney, S., Upsdell, A. & Bassett, S.

• Use of electronic Bx action plans in CMH youth (preliminary conversations with app designers)  
  Mooney, S.

• Utility of the Quality of Life Questionnaire-Bronchiectasis (QOL-B) in CMH Bx population (preliminary work)  
  Mooney, S.
• Revisit different techniques/devices across age and disease stages
• Take time to understand the barriers and navigate through them
• Focus on improved understanding, preference and quality of life
• Generate longitudinal data
Long-term conditions & long term gains

- The importance of physiotherapists in promoting sustainable community-based health programmes to improve long-term health outcomes

- Challenge traditional physiotherapy roles
- Collaborate with team members who have complementary expertise
- Incorporate factors to promote long-term adherence
- Improve long-term health outcomes

Rowland (NZJP, 2016)
What can physiotherapists offer?

An individualised and flexible approach to:

- Understanding BX
- Airway clearance techniques
- Physical activity
- Pulmonary rehabilitation
- Medication management
- Advance care planning
- Action plans
- Advance care planning
- Resources
- Support and navigation ... and regular ‘WOF’

Engaging people with Bx ... is a long term community investment
Thank you

http://www.clipartool.com