

'Lung at Heart'

The transition of exercise rehab groups
from healthcare settings
to independent gym settings

Mark Tran
Exercise Rehab Physiotherapist
St Vincent's Hospital Melbourne

UNDER THE STEWARDSHIP OF MARY AIKENHEAD MINISTRIES

Physical Activity Guidelines

- Australian Guidelines for **65+**: 30mins daily @ moderate intensity (aerobic, strength, flexibility, balance ex's) (2005)
- Australian Guidelines for **18-64**: 2.5 to 5hrs weekly @ moderate intensity, strengthening x2 (2014)
- “[symptom] improvements are moderately large and clinically significant. Rehabilitation forms an important component of COPD.” (Lacasse et al. 2007)
- “Existing interventions generally fail to maintain the benefits derived from pulmonary rehab programs” (Busby et al, 2014)



Lacasse, Martin, Lasserson, Goldstein (2007): Meta-analysis of respiratory rehabilitation in COPD. A Cochrane systematic review. *Europa Medicophysical* 43(4): 475

Busby, Reece, Simon (2014) Pulmonary Rehabilitation Maintenance Interventions: a systematic review. *American Journal of Health Behavior* 38(3): 321.

Lung at Heart Project

- Subsidised gym membership during study period
- Guided transition by a hospital-trained staff member
- Networking between hospital and local gym staff
- Professional development provided for gym staff



Client Gym Induction Protocol

- Individualised gym exercise prescription (cardiovascular endurance and muscle strength)
- Posture and exercise technique correction, and safe exercise intensity
- Safety briefing
- Checking clients' awareness of their self-management of their medical condition
- Education about appropriate gym attire and gym etiquette
- Basic hydration and food intake principles
- Introduction to a gym instructor and their role



Gym Staff Training

- Observation of hospital rehab programs
- Courses regarding the basic disease processes of common chronic illnesses
- Practical demonstrations: exercise prescription and progression, breathing techniques
- Appropriate referral to health professionals
- Mentoring
- Accredited courses e.g. www.lungsinaction.com.au



Examples



Aerobic Activities

- Treadmill
- Exercise Bike
 - Watch for stiff hips!
- Arm Cycle (limit to 5-10mins)
- LLLS groups or other groups for the older population



Strengthening Activities

- Fixed Ranges of Motion
 - pin-loaded or cable-loaded machines
 - Circuit style machines
- Light dumbbell training (<5-10kg)



Examples to AVOID



Aerobic Activities

- Rowing
- Stair climber
- Spin bikes
- high intensity group classes (including yoga classes)
 - (Decreased range of motion, balance, coordination)

Strengthening Activities

- Plate-loaded machines
- Benches, racks, Olympic equipment
- Compound exercises using many major muscle groups simultaneously



Day/Month/Year

Footnote to go here

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Typical Client Program



- Warm-up, cool down, flexibility component
- 2 x 10-15min cardiorespiratory exercise (bike, treadmill)
- 3-5 resistance training exercises
 - Dumbbells (2-8kg)
 - Weight machines (cable or pin loaded)



Lung at Heart Project Findings

- Approx 80 patients (=30% of those who completed hospital rehab)
- Mean age 66yo (hospital cohort 70yo)
- 38% female (hospital cohort 33% female)
- High success rate of client transition to a gym setting
- Zero safety incidents
- Average independent gym attendance was 4 times per month
- Very high patient satisfaction

Quotes from participants included:

- "My mental health has improved"
- "Friends say to me you look better now"
- "My GP was *shocked* that I've improved so much."

Other benefits that clients reported:

- "It helped me to lose weight"
- "Exercise has given me a lot of confidence"
- "I looked forward to coming"
- "I go 3-4 times a week and I walk an hour every day"
- "I would have been in hospital, I think, if I didn't come"

Lung at Heart Project Findings

- **Physical outcome measures of the participants at 3 months post gym commencement:**

Physical Measure	Pre-Gym	Post-Gym	Difference	p-value
6MWT	501m	549m	+48m (+10%)	0.006
1RM seated row	40.0kg	43.6kg	+3.6kg (+10%)	0.055
1RM leg press	245lbs	286lbs	+41lbs (+15%)	0.001

- **Psychosocial:**

- Maintained scores across all SF-36 domains
- Reduced symptoms of depression:

Psychosocial Measure	Pre-Gym (median)	Post-Gym (median)	Difference	p-value
PHQ-9	2	0	-2	0.001

Benefits for the hospital

- Achieve zero-waitlist status for our rehab programs
- 10-20% reduction of ED/hospital admissions
- Improved outpatient clinic attendances



Benefits for gyms

- More client memberships
- Offer more diverse exercise group programs
- Better utilisation of the gym floor during off-peak times
- Better engagement with this section of the community
- Professional development for gym staff



Future Directions

- Improve networking between hospital staff and gyms (e.g. physios, EPs, AHAs with gym staff)
 - Site visits to gyms
 - Collaborative exercise programming
 - Client telephone support/check up post discharge
 - Know membership costs, class types
 - Negotiate free visits
- Hospital rehabilitation programs being run in gym settings

