Exercise as a component of treatment for frailty

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NSW FALLS PREVENTION NETWORK FORUM
TRANSLATING EVIDENCE INTO PRACTICE
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What is Frailty?

- weak; not robust; having delicate health
- easily broken or destroyed
- [morally weak]
  
  Macquarie Dictionary

- the state of being weak in health or body
  
  Web Dictionary
Frail / Frailty – definitions
Frailty: what is it?
(Fried, Cardiovascular Health Study)

Operationally defined as:

“A clinical syndrome in which **three or more** of the following are present:

- unintentional weight loss (10lbs in last year)
- self-reported exhaustion
- weakness (grip strength)
- slow walking speed
- low physical activity”

(Fried et al. Frailty in older adults: evidence for a phenotype. J Geront 2001;56:M146-M156)
Frailty: what is it?
(Rockwood and Mitnitsky)

- Biological process
- "Accumulated deficits"
- Gender specific
- Clearly related to mortality
- Expressed as an "index"

Clinical Frailty Scale
(Rockwood et al)

Can it improve?

Fried: yes
- Better physical function
- Better nutrition
- Better psychological status

Rockwood: yes
- ‘Amelioration of deficits’
If ‘treatment’ is defined broadly

- Exercise (strength, balance, endurance)
- Nutrition (mainly under-, but over- occasionally)
- Psychological / social factors
- Chronic disease management
- Support services
- Carer assistance
The Frailty Intervention Trial (FIT study)

- People over 70, who are ‘frail’ using the Fried criteria
- Treatment approach is an “interdisciplinary multifactorial” program
- ‘Treatment’ is individually provided and offered according to:
  - Lack of strength, slow walking, inactivity
  - Weight loss
  - Exhaustion
  - Chronic illnesses
  - Other factors eg support services or carer issues
- RCT – intervention group treated for 12 months (control group ‘usual care’)
- The study has completed data collection and analysis is in progress
- First results announced today at the Forum

Fried - “frail” – Walking speed, Exhaustion, Grip, Energy expenditure

Rockwood – category 4 - “apparently vulnerable”
The Frailty Intervention Trial - outcomes

- **Primary**
  - Frailty (Fried definition) index score
  - Short Physical Performance Battery (SPPB)

- **Secondary**
  - Hospitalisation and residential aged care facility use
  - ADL (Barthel Index)
  - EQ5D
  - Geriatric Depression Scale
  - Falls risk (PPA)
  - Other
  - Falls
The Frailty Intervention Trial (FIT)

- It is possible to successfully “treat” frailty
- Human frailty is reversible

- How is this done?
<table>
<thead>
<tr>
<th>Fried criterion</th>
<th>Intervention (per FIT protocol)</th>
<th>Subjects receiving intervention</th>
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<tbody>
<tr>
<td></td>
<td></td>
<td>n</td>
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<tr>
<td>Slow walking</td>
<td>WEBB</td>
<td>111</td>
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<tr>
<td>Weakness</td>
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<td>Weight loss</td>
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<td>- other</td>
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<td>Self reported exhaustion</td>
<td>Referral to psychiatrist/psychologist</td>
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<td>Options to increase social engagement</td>
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<td>Self reported exhaustion / Reduced energy expenditure</td>
<td>Cognitive behavioral intervention</td>
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<td>Working toward activity goals</td>
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<tr>
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<td>Working toward participation goals</td>
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<tr>
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<td>Referral to services as necessary</td>
<td>120</td>
</tr>
</tbody>
</table>
FIT – the treatments

- Median 10 sessions with physiotherapist
- Median 4 phone calls to participant
- Median 4 phone calls to other parties

- Including median 8 sessions of strength, balance and endurance training
- Weight-bearing for Better Balance (WEBB) program (www.webb.org.au)
Weight-bearing Exercise for Better Balance (WEBB)

A challenging, safe, evidence-based physiotherapy program for older people.

Warm-up
1. High stepping on the spot

Co-ordination exercises
2. Standing with a decreased base
3. Graded reaching in standing
4. Stepping in different directions
5. Walking practice

Strength/co-ordination exercises
6. Sit-to-stand
7. Heel raises
8. Lateral step-up
9. Forward step-up
10. Half-squats sliding down a wall

Endurance exercise
11. Bike, treadmill walk, overground walk or sit-to-stand

Other interventions if appropriate
- Getting off the floor training
- Additional strength/co-ordination exercises and stretches

www.webb.org.au