Exercise and Lifestyle interventions for people with CKD

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Session Outline

Importance of lifestyle interventions and the kidney

Recommendations for exercise / physical activity

Practical examples and ways to engage patients
Exercise:
- Feel stronger
- Heart health
- Quality of life
- Blood pressure control
- Diabetes control
- Mental health
- Bone density
- Cholesterol control
- Reduce breathlessness
- Weight control
VO$_2$ peak and Survival

Survival as function of baseline VO$_2$ peak for 175 ambulatory ESRD patients

Survival and ADL

Survival in 143 HD patients stratified according to ADL

Inactivity status and survival on dialysis

Sedentary patients had a 62% greater risk of dying within a year.

2264 incident dialysis patients; sedentary, active; 9–12-month survival

O'Hare AM et al (2003) Am J Kid Dis
Exercise therapy: The evidence

- 35 years of research investigations into effects of exercise training on physiological and patient outcomes

- **Systematic reviews**
  - Cheema and Singh 2005, Segura-Orti 2010, Smart and Steele 2011

- Studies are characterised by small sample sizes, short duration, variation in ex prescription
Effect of exercise on aerobic capacity
Effect of exercise on Walking capacity
Effect of exercise on Muscle strength

Heiwe and Jacobson AJKD 2014
Effect of exercise on Kidney function
Exercise options for people living with CKD
Intradialytic Exercise
intradialytic exercise research

CYCLE-HD
- n=130
- 6/12 IDC led to reduced LV mass

PEDAL
- N=235
- Data cleaning for analysis
- watch this space!
### Practical Benefits

#### Intradialytic exercise

<table>
<thead>
<tr>
<th>Benefit</th>
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<tbody>
<tr>
<td>Captive audience – will enhance adherence</td>
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<tr>
<td>Supervised by dialysis staff</td>
</tr>
<tr>
<td>Motivation from staff and peers</td>
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<tr>
<td>No extra time required for exercise (reduce patient time burden)</td>
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<tr>
<td>May stabilise haemodynamics during the treatment</td>
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<tr>
<td>Less cramping / hypotension / post-dialysis fatigue / stiffness</td>
</tr>
<tr>
<td>Changes environment in the unit from ‘illness’ to ‘wellness’</td>
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<tr>
<td>Changes staff attitudes / expectations of patients (and patient expectations for their life on dialysis)</td>
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Practicalities

Exclusion Criteria:

- MI within the last 3/12
- *Unstable* angina
- Acute infection
- Acute orthopaedic conditions
- Uncontrolled hypertension
- Uncontrolled arrhythmias
- Other conditions raising concerns re: fitness to exercise to be d/w consultant

Exclusion from session:

- BP > 180/100mmHg
- Inter-dialytic weight gain is >4 litres
- Patient is unwell (SOB, infection, pain)
Minimising risk of exercise training for patients

• Exercise prescription based on baseline fitness levels and patient-centred goals
• Start exercises slowly and progress gradually
• Always use a warm up and cool down

“Not taking part is more of a risk than taking part”
Renal rehab

- Would you like to get FITTER and STRONGER with SUPPORT?
- Are you unsure how to EXERCISE with your KIDNEY disease?
- Do your MUSCLES feel weaker? Do you get OUT OF BREATH when exercising?

Come along to renal rehab

If you are interested in attending our renal rehab class at East Dulwich Community Hospital contact our renal rehab team on 0203 299 6725
Renal Rehabilitation

12 week exercise programme

X2 per week

Individual Assessments

Warm-up 10 mins
Aerobic and resistance training 40 mins
Cool-down 10 mins

Education Component

Links with community services
RR Assessments

Individualised Assessment

Outcome Measures
- Incremental Shuttle Walk Test
- Timed Up and Go
- STS 60
- Stair climb/descent

Renal Rehabilitation
OR
Home Exercise Programme
OR
Exercise on referral or local exercise groups

Exercise Diary
Mortality and morbidity following exercise-based renal rehabilitation in patients with CKD

<table>
<thead>
<tr>
<th>Baseline mean (SD) unless otherwise stated</th>
<th>Completed RR n=335 (44.3%)</th>
<th>Did not complete RR n=422 (55.7%)</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age at assessment (years)</td>
<td>58.44 (11.90)</td>
<td>54.96 (11.32)</td>
<td>&lt;0.001**</td>
</tr>
<tr>
<td>Men, n (%)</td>
<td>184 (56.1%)</td>
<td>226 (53.9%)</td>
<td>NS</td>
</tr>
<tr>
<td>Women, n (%)</td>
<td>151 (43.9%)</td>
<td>196 (46.1%)</td>
<td></td>
</tr>
<tr>
<td>Modality Non-dialysis CKD (%)</td>
<td>138 (44.2)</td>
<td>117 (27.7)</td>
<td></td>
</tr>
<tr>
<td>Modality Haemodialysis (%)</td>
<td>80 (24.4)</td>
<td>49 (11.6)</td>
<td></td>
</tr>
<tr>
<td>Modality Peritoneal Dialysis (%)</td>
<td>28 (4.8)</td>
<td>25 (9.0)</td>
<td></td>
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<tr>
<td>Modality Kidney Transplant (%)</td>
<td>89 (26.6)</td>
<td>102 (36.7)</td>
<td></td>
</tr>
<tr>
<td>Ethnicity Black British/African/ Caribbean (%)</td>
<td>147 (52.9)</td>
<td>45 (11.3)</td>
<td>0.027*</td>
</tr>
<tr>
<td>Ethnicity Asian (%)</td>
<td>25 (9.0)</td>
<td>117 (27.7)</td>
<td></td>
</tr>
<tr>
<td>Ethnicity White Caucasian (%)</td>
<td>102 (36.7)</td>
<td>102 (36.7)</td>
<td></td>
</tr>
<tr>
<td>BMI (kg/m²)</td>
<td>31.32 (6.33)</td>
<td>30.71 (6.00)</td>
<td>NS</td>
</tr>
<tr>
<td>eGFR</td>
<td>32.96 (28.32)</td>
<td>27.93 (26.16)</td>
<td>NS</td>
</tr>
<tr>
<td>Diabetes % (yes/no)</td>
<td>35.1%/64.9%</td>
<td>44.7%/55.3%</td>
<td>0.013*</td>
</tr>
<tr>
<td>Hypertension % (yes/no)</td>
<td>82.9%/17.1%</td>
<td>82.0%/18.0%</td>
<td>NS</td>
</tr>
<tr>
<td>Smoker % (yes/no)</td>
<td>12.9%/87.1%</td>
<td>12/1%/87.9%</td>
<td>NS</td>
</tr>
<tr>
<td>ISWT (meters)</td>
<td>295.68 (162.43)</td>
<td>260.67 (157.57)</td>
<td>&lt;0.001**</td>
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Retrospective longitudinal analysis, 12 years, n=757 193 events (136 deaths)

Greenwood et al, 2018, NDT
Kaplan–Meier survival analysis for ‘completers’ and ‘non-completers’ of RR.

log rank test
p=0.009
Kaplan–Meier survival analysis for ‘improvers’ and ‘non-improvers’ in exercise capacity.

log rank test
p=0.02
RR Feedback

‘If I don’t come for the exercises I definitely miss it’

‘More aware of trying to fit activity in my daily life’

‘In every way, I just feel now that I live life’

‘I am now able to do ADL’s with ease and no longer fear going for walks when I want.’
Weight Management Clinic

- All people living with CKD (including donors) with:
  - BMI ≥30 kg/m² OR
  - significant WG in 6-12 months

- MDT clinic run by specialist Renal Dietitian and Physiotherapist

![Diagram with steps: Individualised low fat, reduced energy DIET (1200 - 1800 kcal/day), ORLISTAT (Xenical) 120 mg tablet three times a day with meals, Increased activity daily plus planned EXERCISE 15 - 45 mins at least 3 days a week.]
WMP method

• Individual appointments once a month for 6 months, with follow up at 9 and 12 months
  • Motivational interviewing
  • Individualised goal setting
  • Food and activity diaries
  • Individualised patient education

• Weight change, exercise tests, BP, lipids, eGFR, HBA1c, medications (diabetes, BP and lipids)
A structured weight management programme can achieve improved functional ability and significant weight loss in obese patients with chronic kidney disease.

Sharlene A. Cook, Helen MacLaughlin and Iain C. Macdougall

1Department of Physiotherapy, 2Department of Dietetics and 3Department of Renal Medicine, King's College Hospital, London, UK
Other options

Exercise on referral

myfitnesspal

Healthy Lifestyles
Active Walk Scheme

Monday  Kennington Park  Meeting at the Café  12.30pm
Tuesday  Brockwell Park  Meeting at the Lido  2pm
          Embankment Walk
Thursday  Streatham Common (united)

Meeting at St Thomas’ Hospital main entrance  2.30pm
Meeting at Rockery Café  1pm

For information regarding other walks in Lambeth contact the Healthy Lifestyle Coordinator on 020 7912 0761 or email on healthylifestyles@lambeth.gov.uk

“Healthy Lifestyles – Improving the health of local people”

www.lambeth.gov.uk/healthylifestyles

Exercise on referral
Barriers to engagement with exercise / physical activity...

- Fatigue
- Weight management
- Multiple appointments
- Medication side-effects
- Exercise engagement
Maintaining motivation to Exercise

- **Support**
  - Doctors & nurses
  - Family/friends

- **Facilities / EQUIPMENT**

- **Enjoyment**
  - Varied & enjoyable programme
  - Group participation?
  - Games

- **Regularly organised**
  - Plan
  - Arrange with friends

- **Monitor progress**
  - Fitness tests / weight
  - Progress charts
  - Goals
  - Rewards
Ambivalence

“being in two minds about something”
Understanding Change

- Normal, people get stuck
- Healthcare workers with well meaning intentions push on the side of change
- Patients argue against change and become more resistant to changing
Why do practitioners push?

• Concern and care for patients
• Feel obliged to “tell” and fix it for patients
• “Why don’t you...... if you don’t .....what will happen is....”
How do we respond to patients?
How to approach this differently?

• Be a good listener!
  • Reflect what patients tell you.

• Ask patients rather than tell them.

• Support patients to make their own decisions.
'I want a transplant so I know I need to lose weight'

• ‘If you don’t lose weight you won’t be activated on the transplant list!’

• ‘You are thinking about your future’

• ‘You know that losing weight is important to become eligible for a transplant’
‘I don’t always have time to exercise or go to the gym’

• ‘It’s very important to be active, you should do 150 minutes a week…’

• ‘Lots of patients find managing time to exercise when working/kids at school... can I tell you what some of my other patients find helpful?’

• ‘It’s hard to fit in exercise and physical activity’
Open Questions

- What is an open question?
- Why might we use them?
Open Questions

• When?
• How?
• Describe..
• What?
• Tell me..
• (Why)?
Closed Questions...

- Is?
- Have?
- Are?
- Would?
- Will?
- Could?
- Can?
- Can?
- Do?
- Did?
Open Questions...

How have things been with your transplant since you were last in clinic?

How have you been managing with your physical activity?

What exercise are you doing at the moment?

Tell me about your current activity/exercise regime

A lot of our patients struggle to keep to active, how about you?
Some OQ’s about change

• What might be some of the benefits for you of sticking to your activity plan?

• What would help you to keep active and motivated to manage your kidney disease better?

• Imagine you had exercised regularly, how might you feel/what would be different?

• How important is it for you to stick to your regime?

• What do you think might happen if you continue to not exercise?
Giving advice

- It is important
- How we do it matters
- Asking permission is helpful
- Be curious about patients response
- Let them decide