

Exercise and Lifestyle interventions for people with CKD

Dr Sharlene Greenwood
&
Ellen Castle

King's College Hospital



@sharleneuk @Ellenphysiouk



KING'S HEALTH PARTNERS



Session Outline



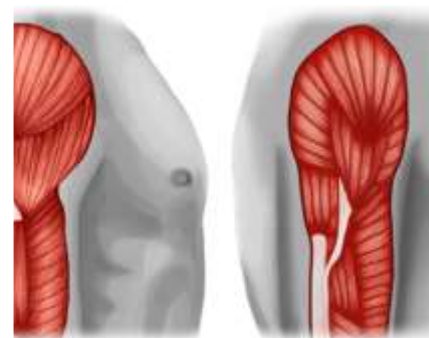
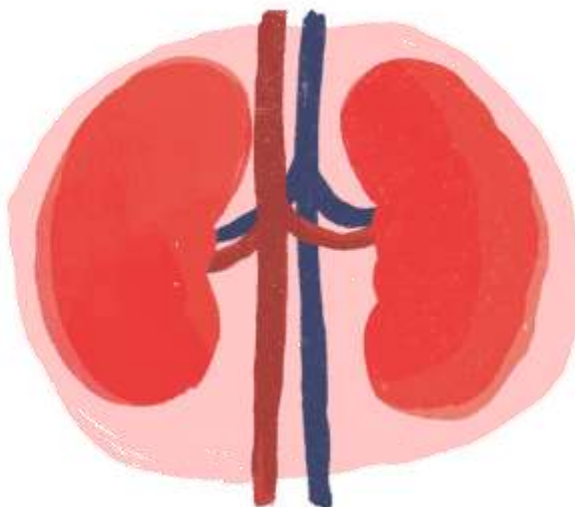
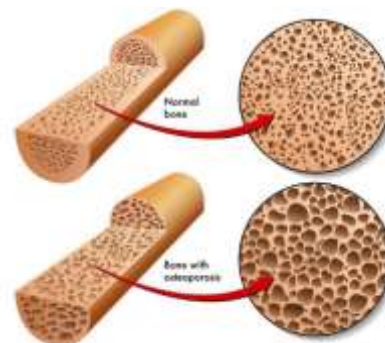
Importance of lifestyle interventions and the kidney



Recommendations for exercise / physical activity



Practical examples and ways to engage patients



Why exercise?

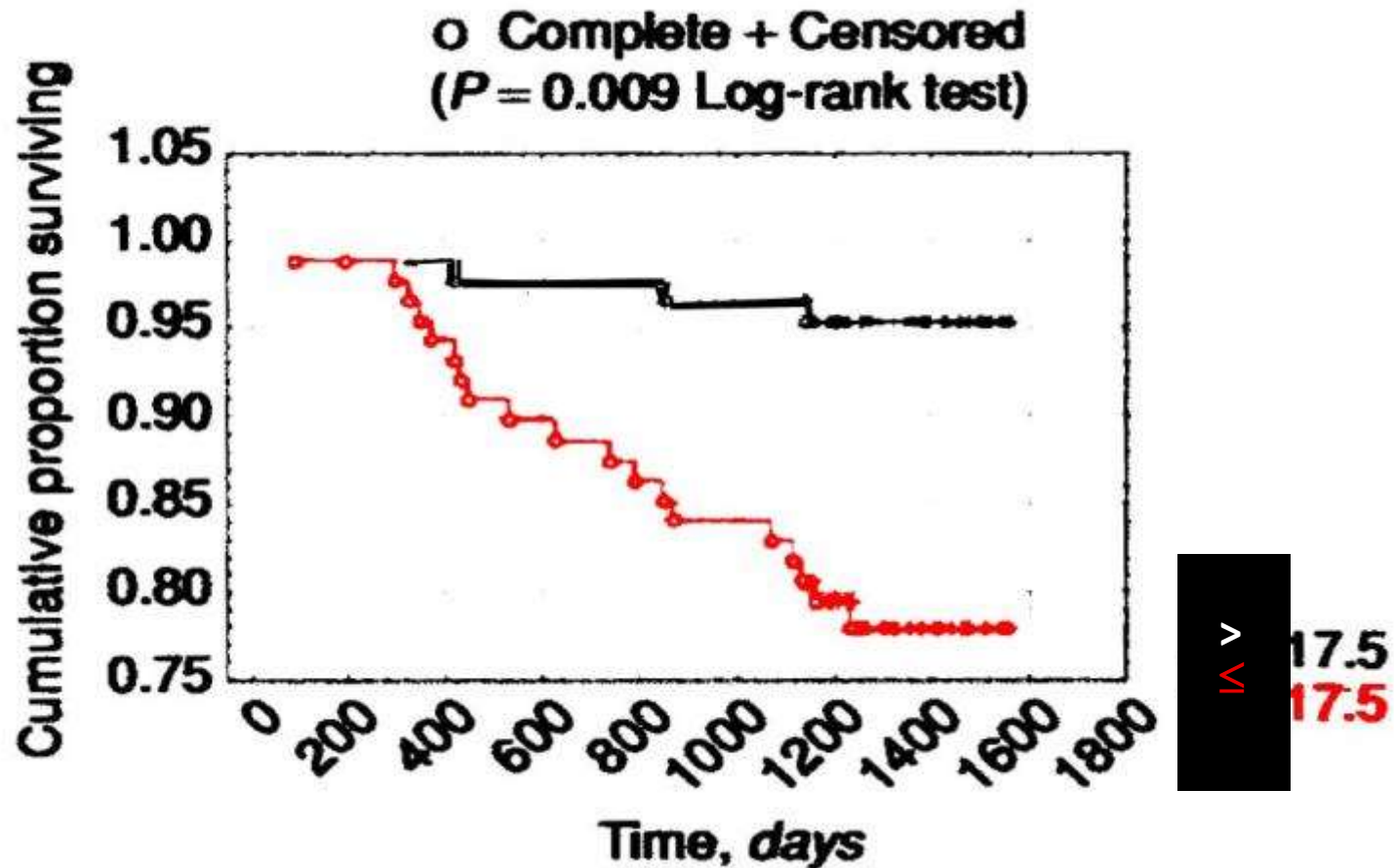


Exercise:

- Feel stronger
- Heart health
- Quality of life
- Blood pressure control
- Diabetes control
- Mental health
- Bone density
- Cholesterol control
- Reduce breathlessness
- Weight control

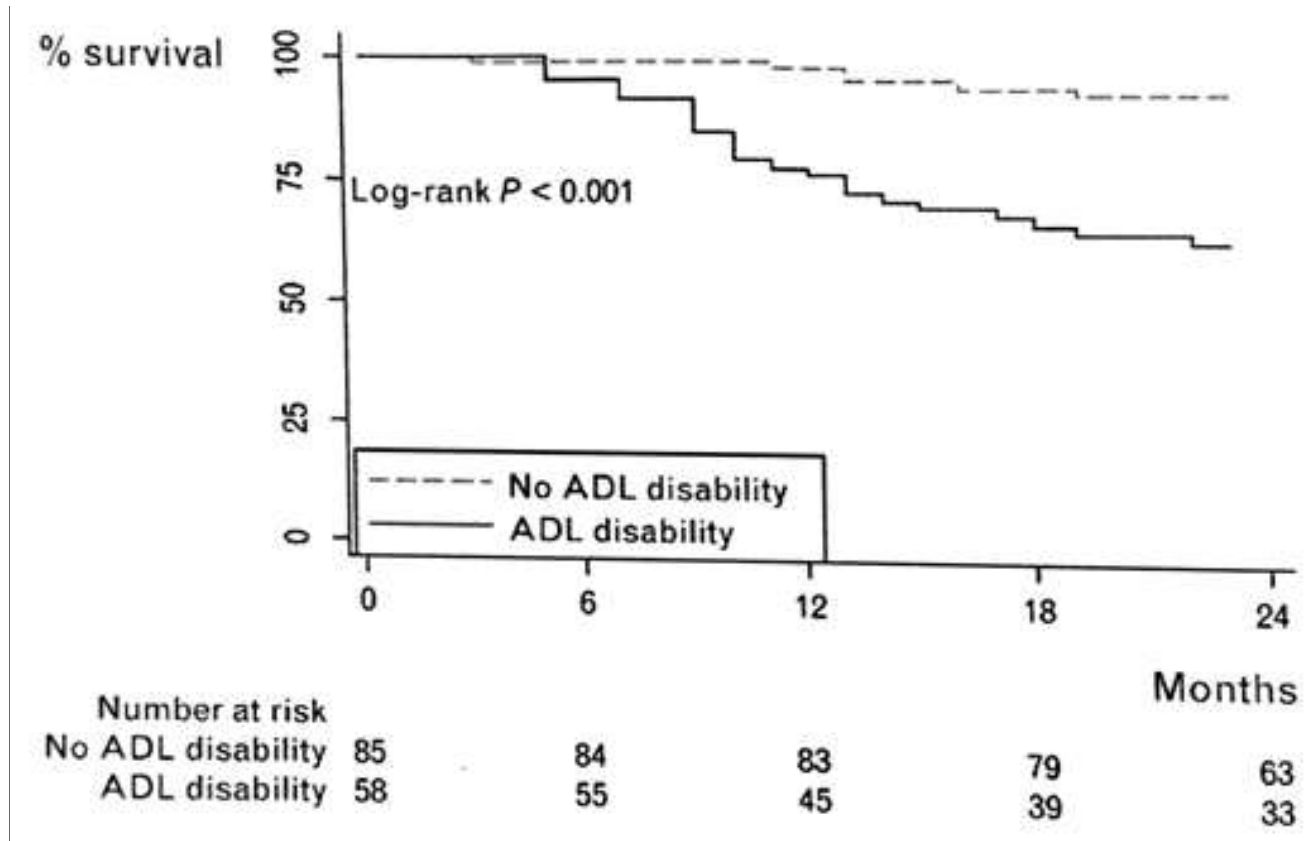
VO₂ peak and Survival

Survival as function of baseline VO₂peak for 175 ambulatory ESRD patients

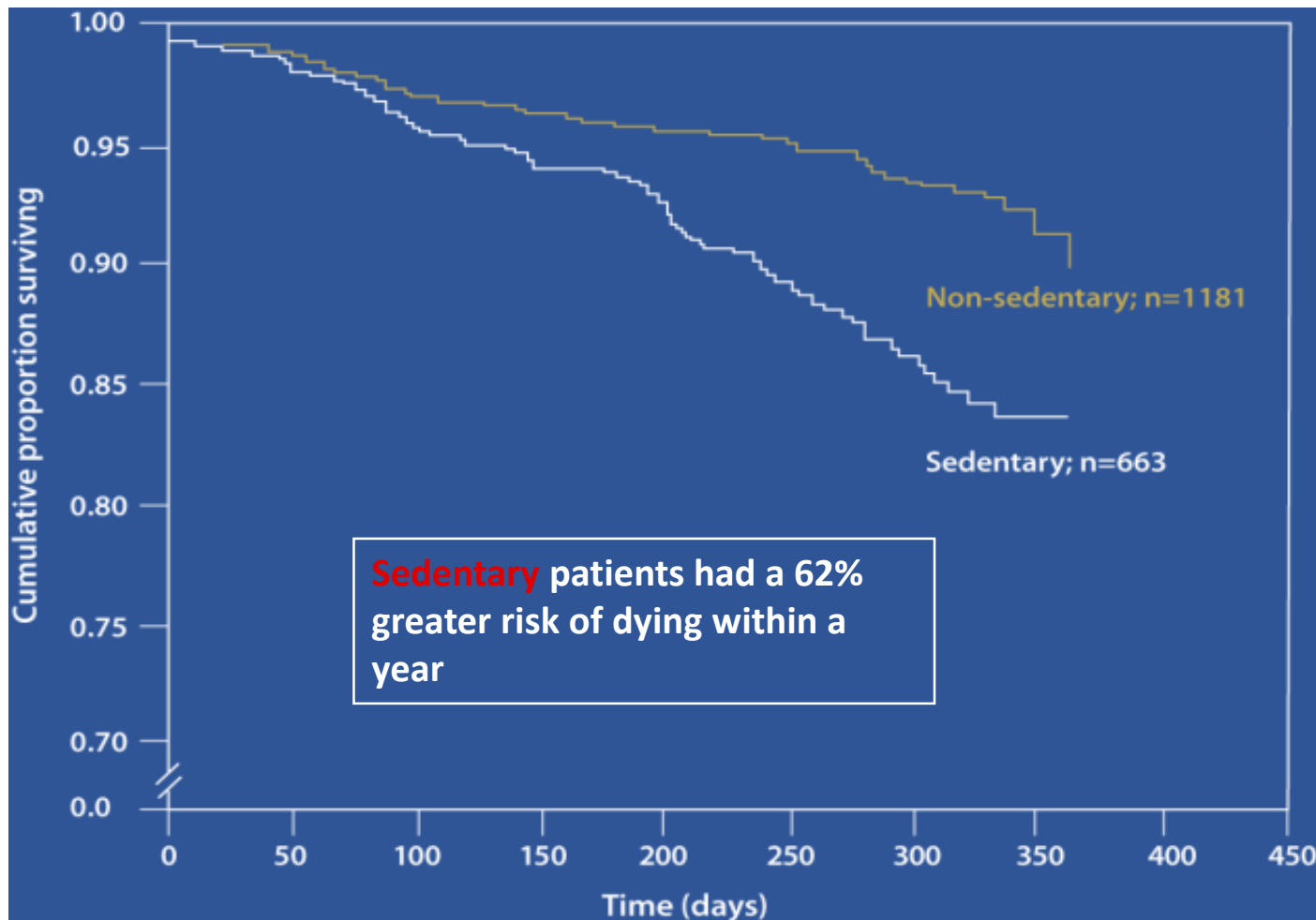


Survival and ADL

Survival in 143 HD patients stratified according to ADL



Inactivity status and survival on dialysis



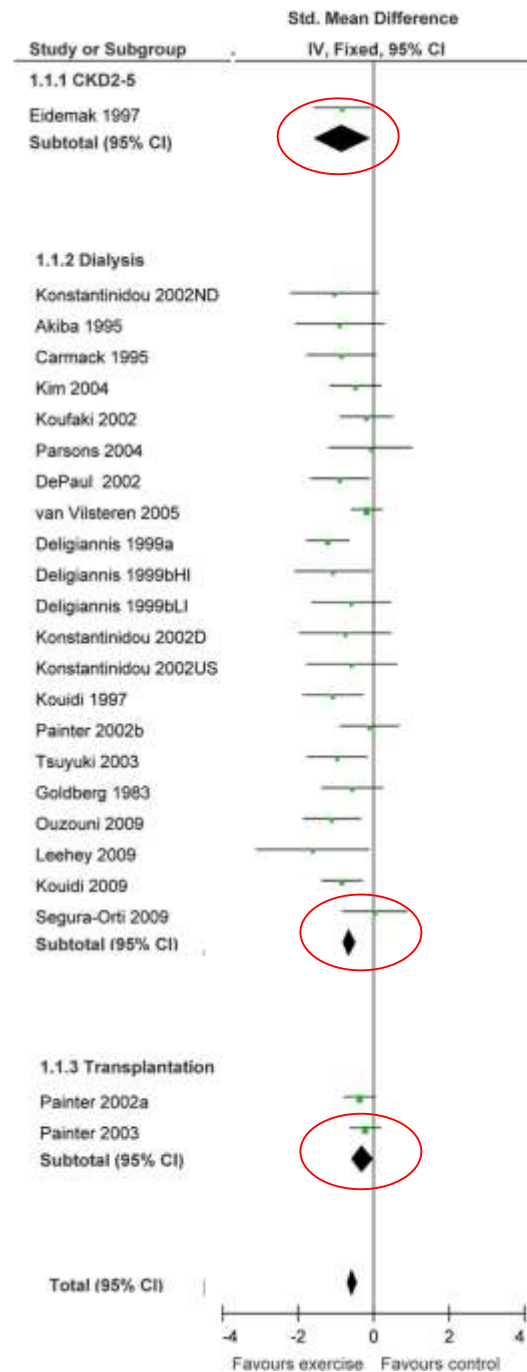
2264 incident dialysis patients; sedentary, active; 9–12-month survival

Exercise therapy: The evidence

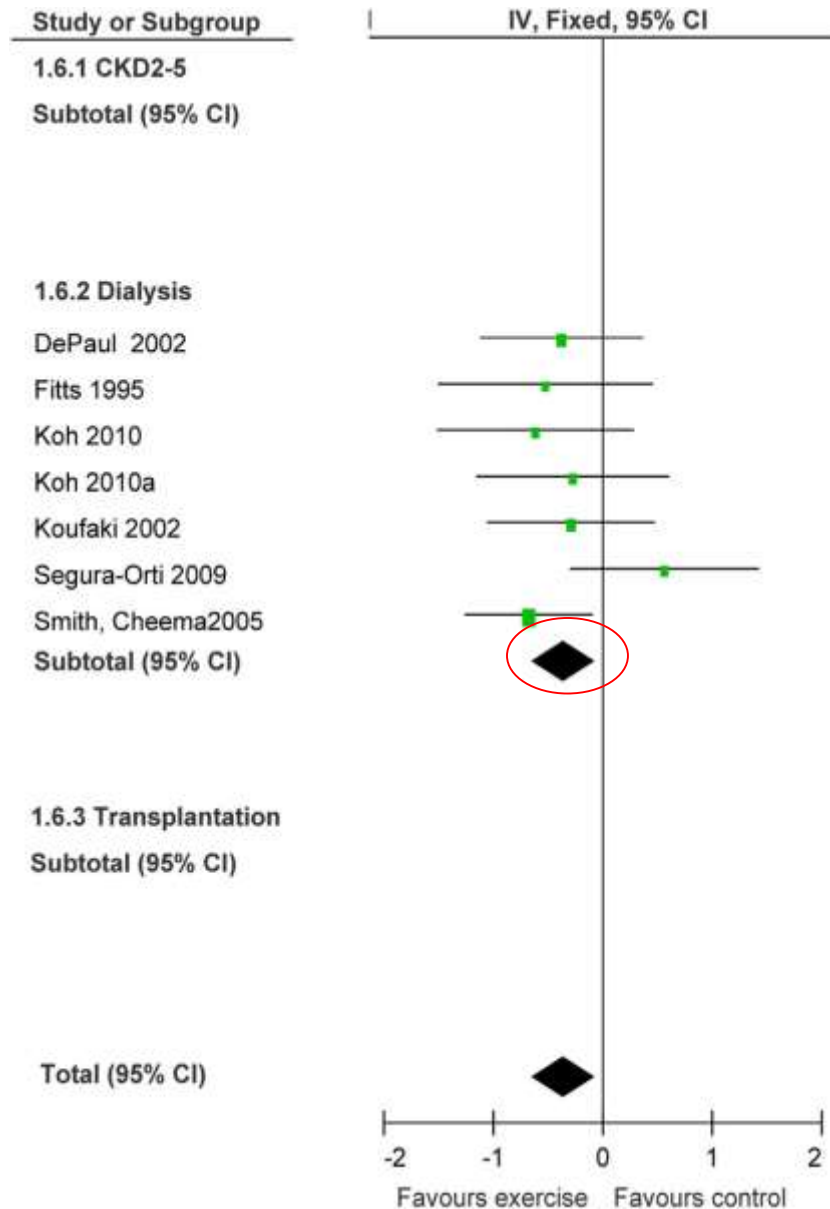
- 35 years of research investigations into effects of exercise training on physiological and patient outcomes
- **Systematic reviews**
 - Cheema and Singh 2005 , Segura-Orti 2010, Smart and Steele 2011
 - Heiwe and Jacobson 2011 and 2014, Howden 2012, Koufaki and Greenwood 2013, Shimoda 2017, McKinnon 2018, Wyngaert 2018, Young 2019
- Studies are characterised by small sample sizes, short duration, variation in ex prescription



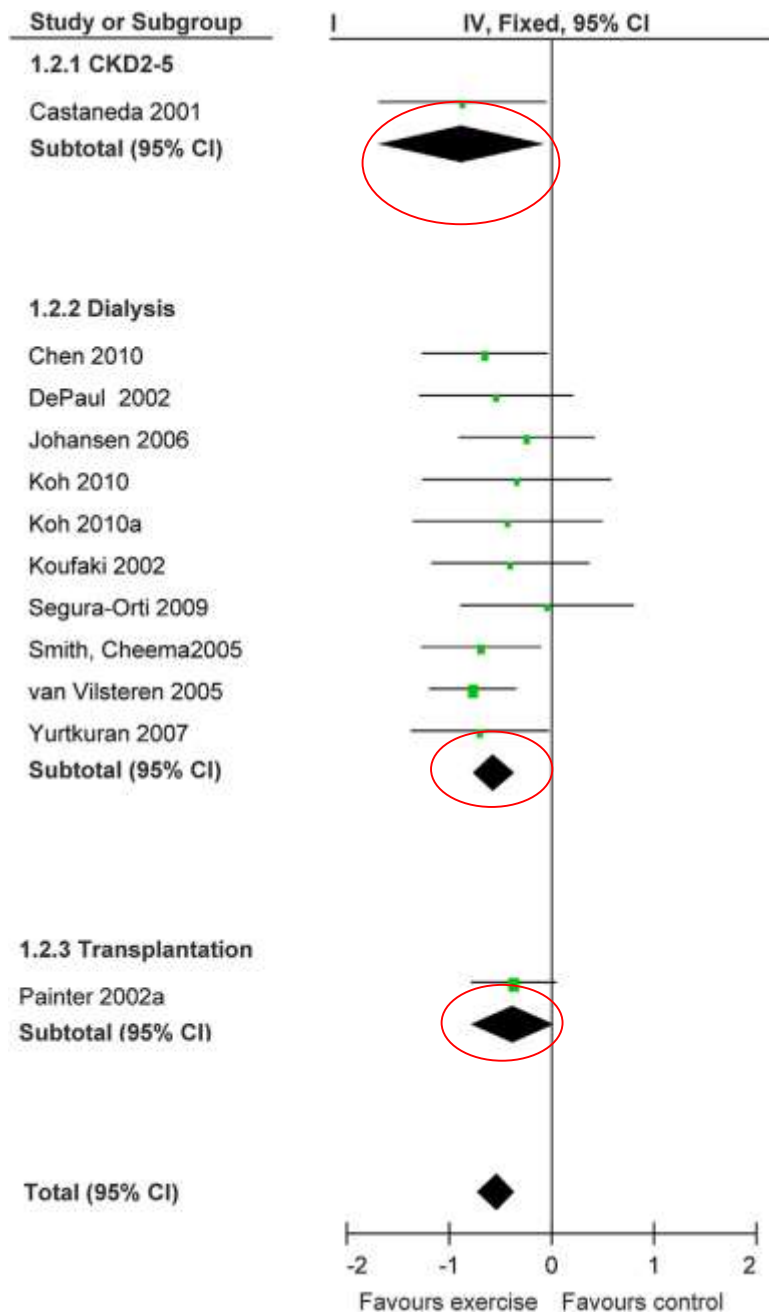
Effect of exercise on aerobic capacity



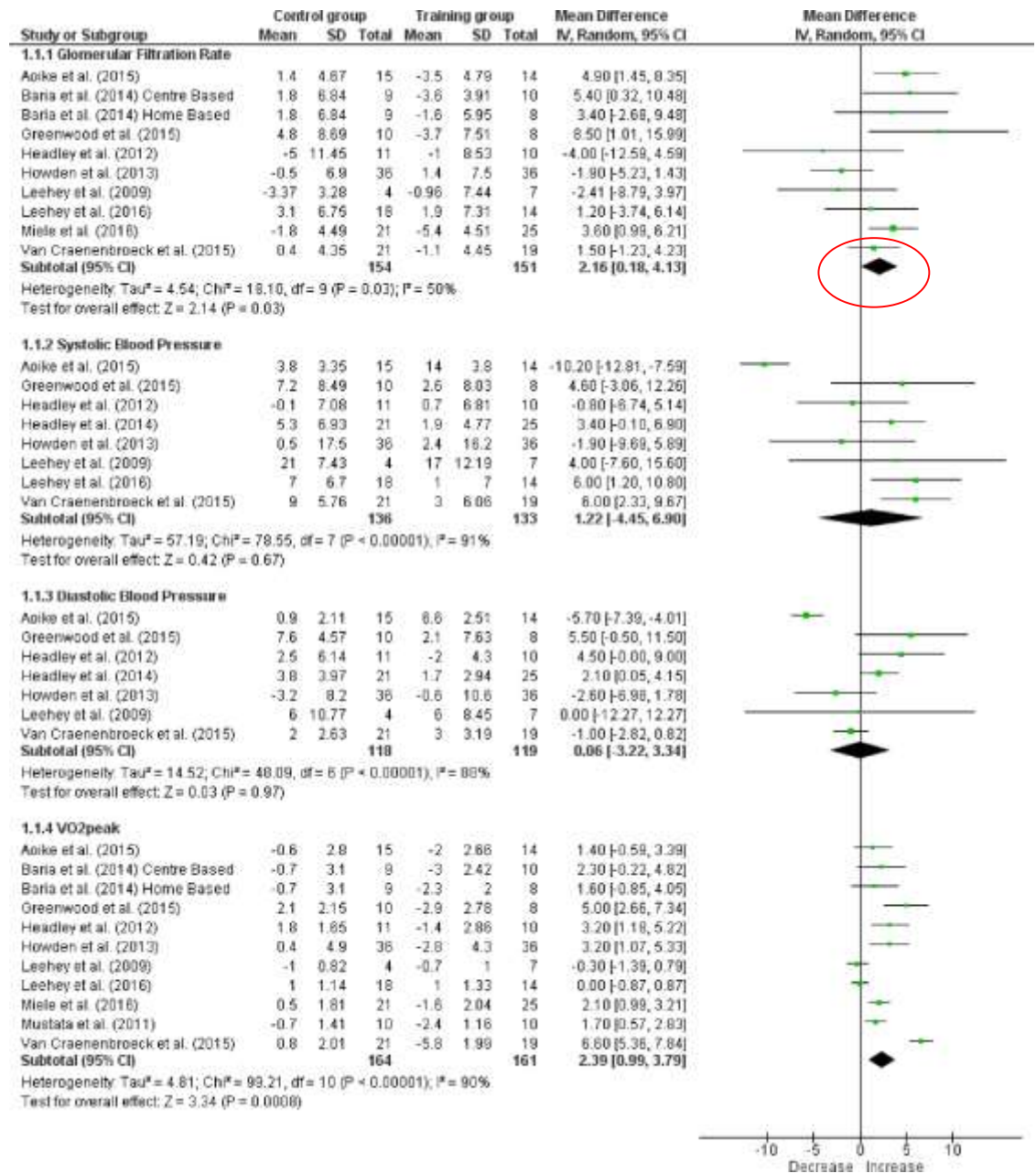
Effect of exercise on Walking capacity



Effect of exercise on Muscle strength



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

Captive audience – will enhance adherence

Supervised by dialysis staff

Motivation from staff and peers

No extra time required for exercise (reduce patient time burden)

May stabilise haemodynamics during the treatment

Less cramping / hypotension / post-dialysis fatigue / stiffness

Changes environment in the unit from 'illness' to 'wellness'

Changes staff attitudes / expectations of patients (and patient expectations for their life on dialysis)

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?

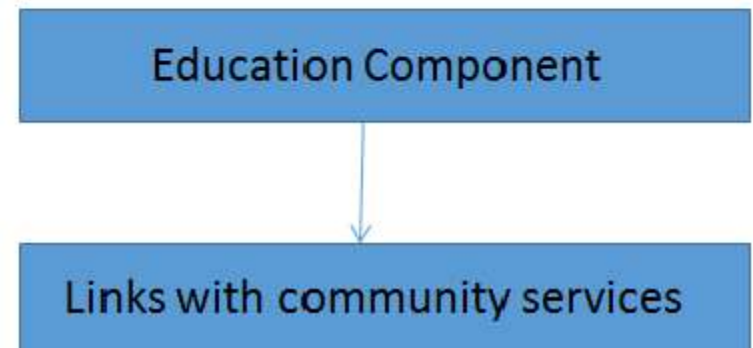
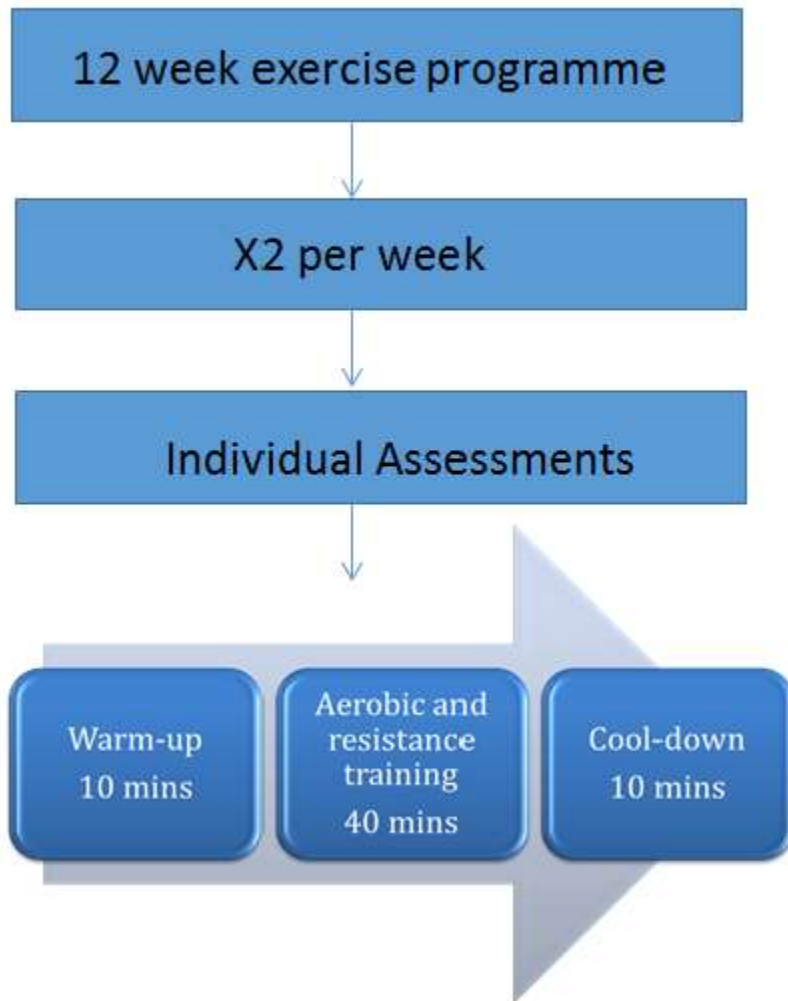
Come along to renal rehab



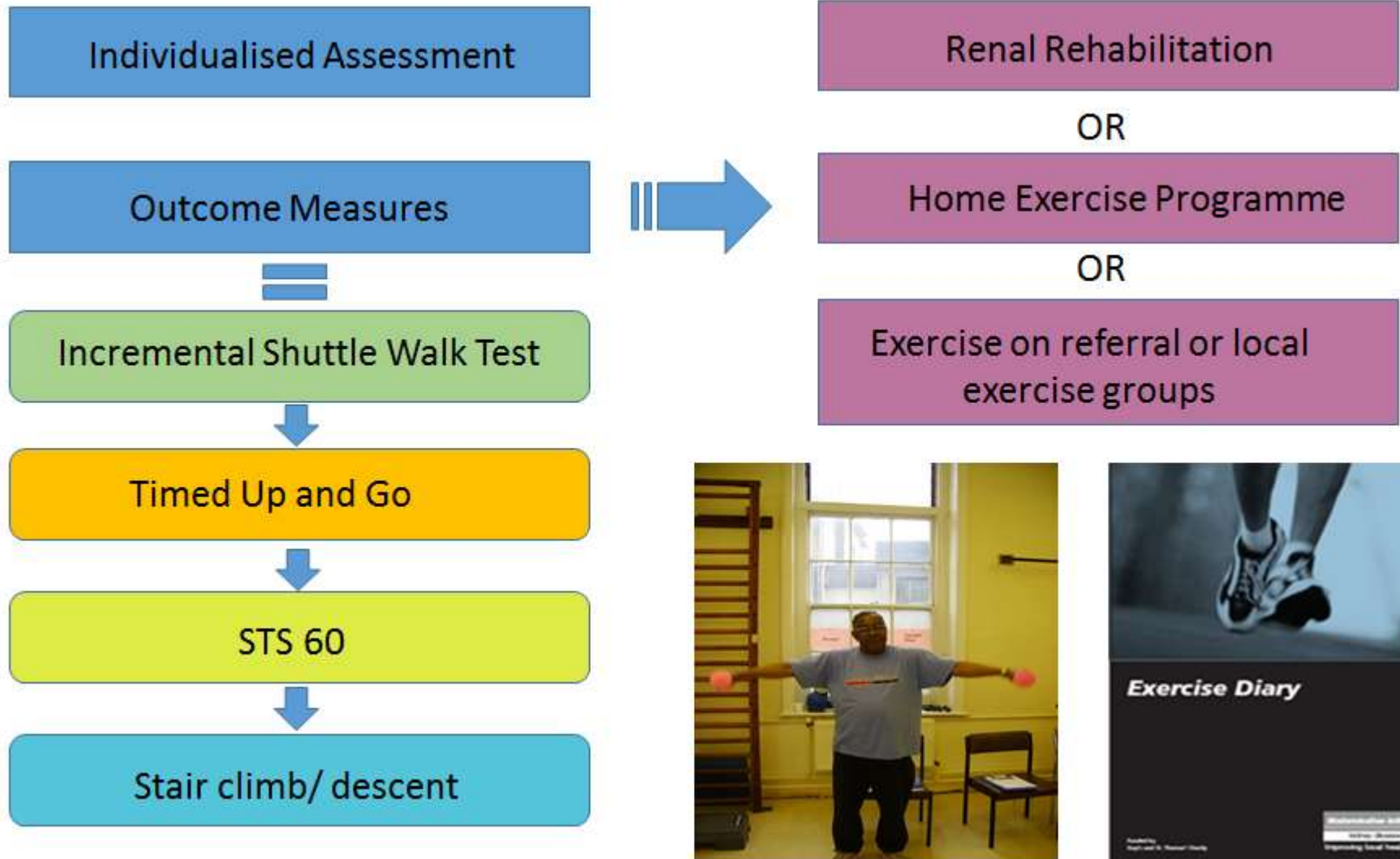
If you are interested in attending
our renal rehab class at East Dulwich
Community Hospital contact our renal
rehab team on
0203 299 6725



Renal Rehabilitation



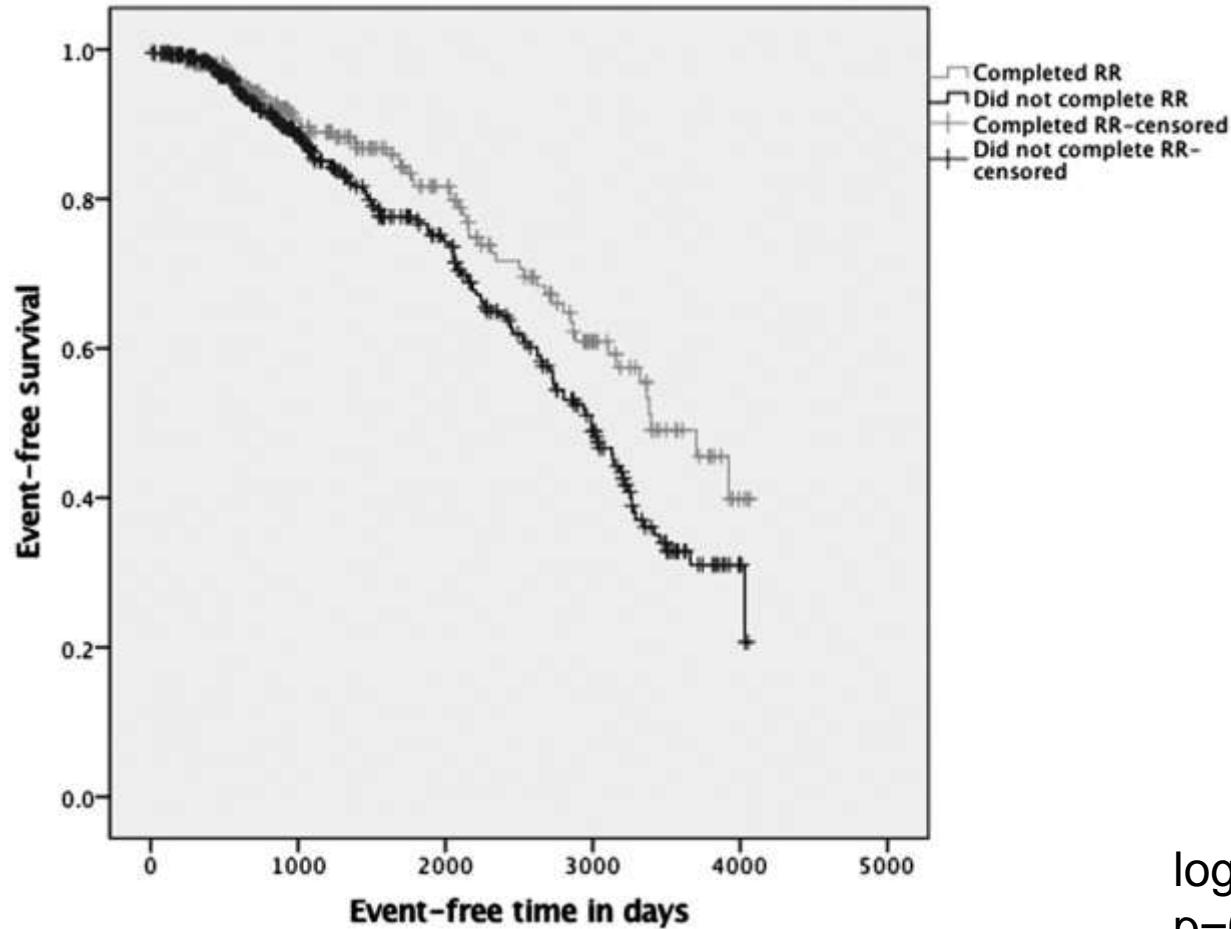
RR Assessments



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

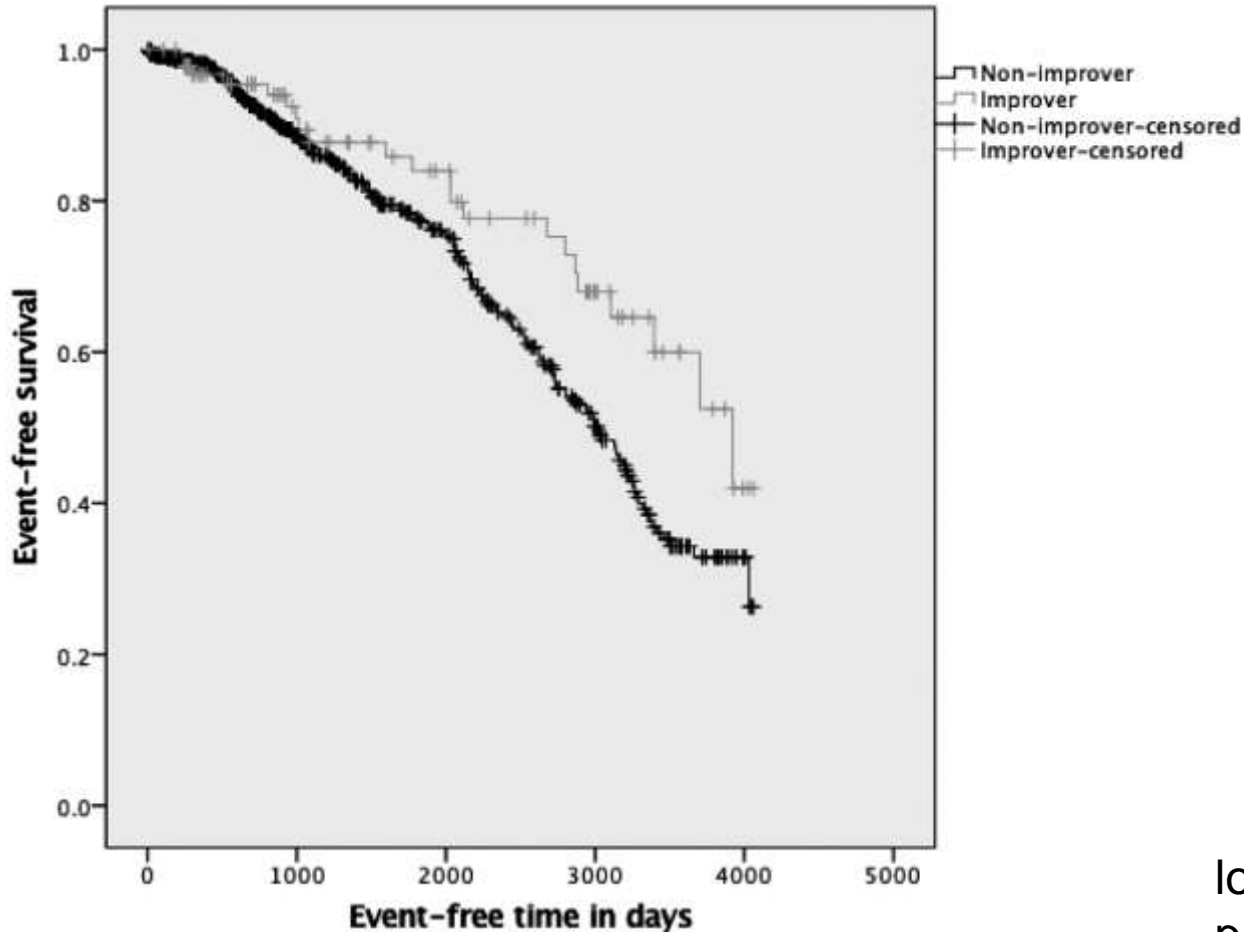
Baseline mean (SD) unless otherwise stated	Completed RR n=335 (44.3%)	Did not complete RR n=422 (55.7%)	p-value
Age at assessment (years)	58.44 (11.90)	54.96 (11.32)	<0.001**
Men, n (%)	184 (56.1%)	226 (53.9%)	NS
Women, n (%)	151 (43.9%)	196 (46.1%)	NS
Modality Non-dialysis CKD (%)	138 (44.2)	<div>Retrospective longitudinal analysis, 12 years, n=757 193 events (136 deaths)</div>	0.027*
Modality Haemodialysis (%)	80 (24.4)		
Modality Peritoneal Dialysis (%)	28 (4.8)		
Modality Kidney Transplant (%)	89 (26.6)		
Ethnicity Black British/African/ Caribbean (%)	147 (52.9)		
Ethnicity Asian (%)	25 (9.0)	49 (11.6)	0.027*
Ethnicity White Caucasian (%)	102 (36.7)	117 (27.7)	0.027*
BMI (kg/m ²)	31.32 (6.33)	30.71 (6.00)	NS
eGFR	32.96 (28.32)	27.93 (26.16)	NS
Diabetes % (yes/no)	35.1%/64.9%	44.7%/55.3%	0.013*
Hypertension % (yes/no)	82.9%/17.1%	82.0%/18.0%	NS
Smoker % (yes/no)	12.9%/87.1%	12/1%/87.9%	NS
ISWT (meters)	295.68 (162.43)	260.67 (157.57)	<0.001**

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'



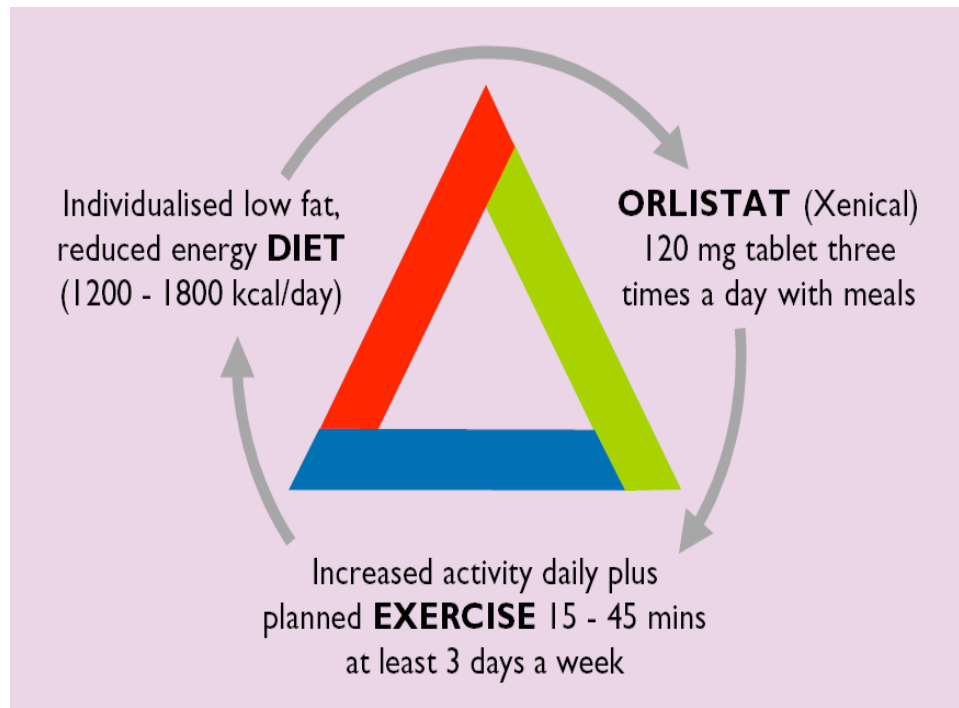
'In every way, I just feel now that I live life'

'More aware of trying to fit activity in my daily 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



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. Cook¹, Helen MacLaughlin² and Iain C. Macdougall³

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

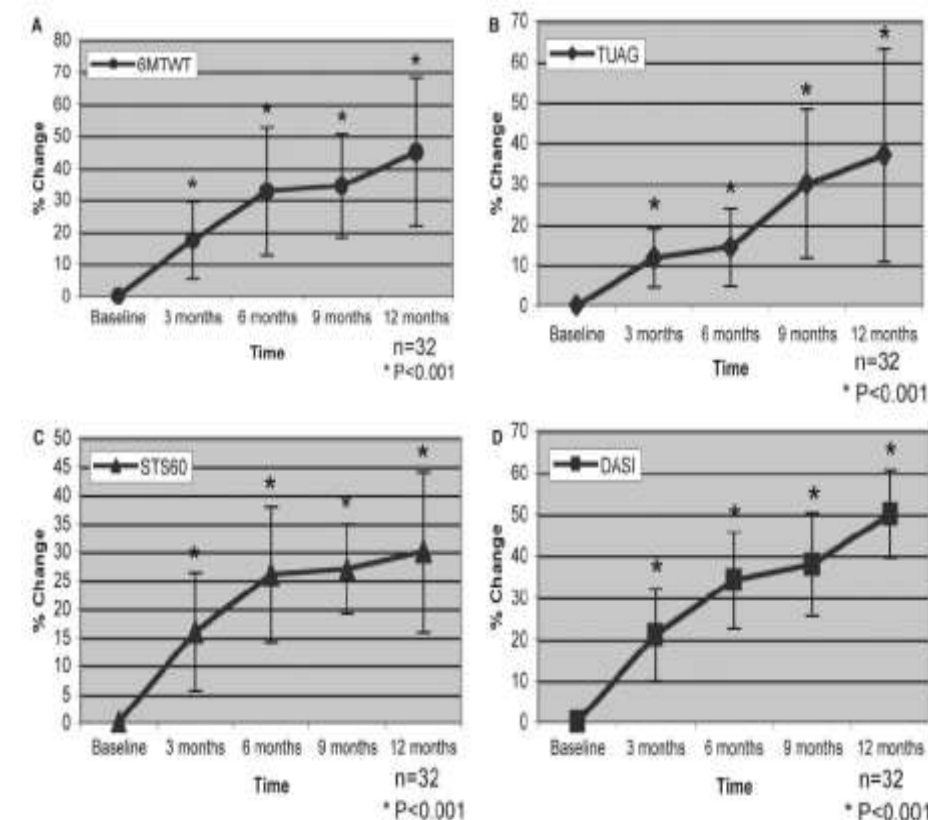
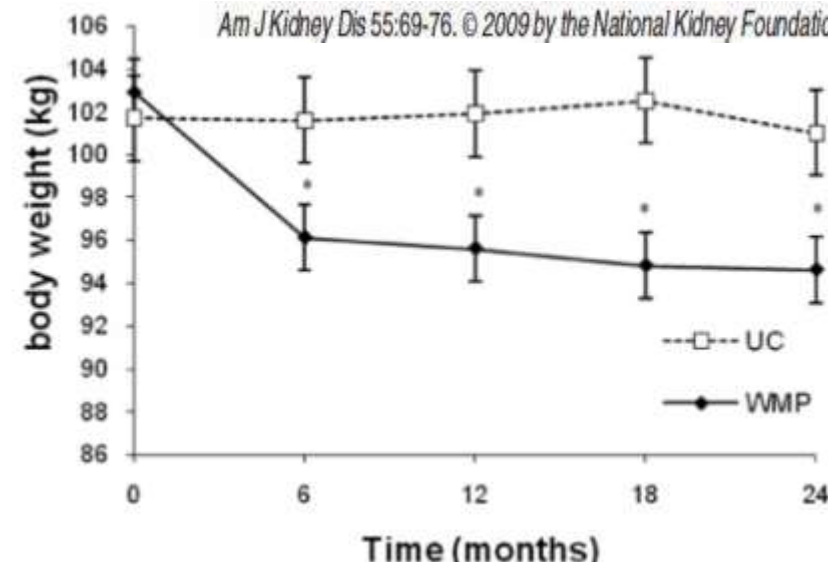


Fig. 1. Mean percentage change in exercise performance measures: (A) 6 min timed walk test (6MTWT), (B) sit to stand 60 (STS 60), (C) timed up and go (TUAG) and (D) Duke's activity status index (DASI), from baseline to 12 months in obese CKD patients recruited onto the WMP.

Nonrandomized Trial of Weight Loss With Orlistat, Nutrition Education, Diet, and Exercise in Obese Patients With CKD: 2-Year Follow-up

Helen L. MacLaughlin, BSc (Hons),¹ Sharlene A. Cook, BSc (Hons),²
Deepa Kariyawasam, BSc (Hons),¹ Magnus Roseke,³ Marcelle van Niekerk, BSc, PGDip,¹
and Iain C. Macdougall, BSc (Hons), MD, FRCP³

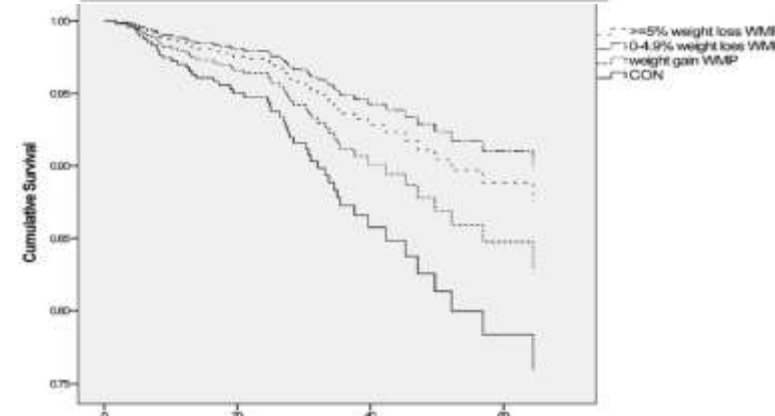
Am J Kidney Dis 55:69–76. © 2009 by the National Kidney Foundation, Inc.



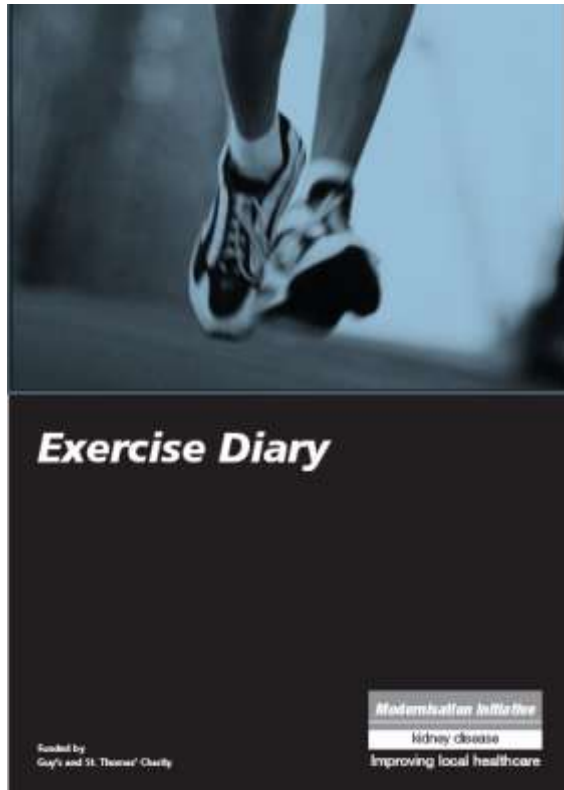
ORIGINAL RESEARCH

Participation in a Structured Weight Loss Program and All-Cause Mortality and Cardiovascular Morbidity in Obese Patients with Chronic Kidney Disease

Helen L. MacLaughlin, RD, PhD,*† Wendy L. Hall, RD, PhD, James Gandy, BA,‡
Thomas A. B. Kewson, PhD,*† and Iain C. Macdougall, MD, FRCP*†



Other options



Lambeth

Healthy Lifestyles Active Walk Scheme

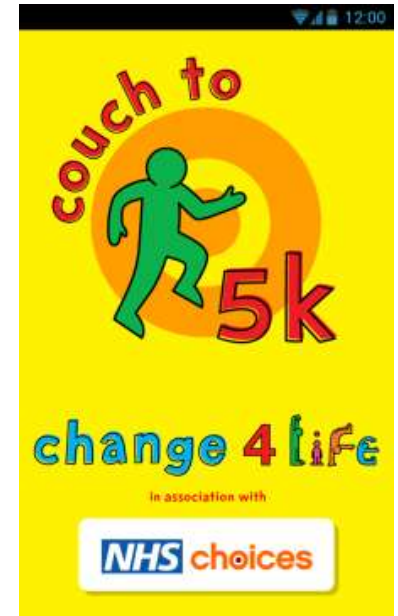
Our walks are led by friendly instructors who will support and encourage you while you are walking.

Monday	Kennington Park	Meeting at the Café 12.30pm
Tuesday	Brockwell Park	Meeting at the Lido 2pm
	Embankment Walk	Meeting at St Thomas' Hospital main entrance 2.30pm
Thursday	Streatham Common (united)	Meeting at Rockery Café 1pm

For information regarding other walks in Lambeth contact the Healthy Lifestyle Coordinator on 020 7826 0761 or email on healthylifestyles@lambeth.gov.uk

Healthy Lifestyles – Improving the health of local people

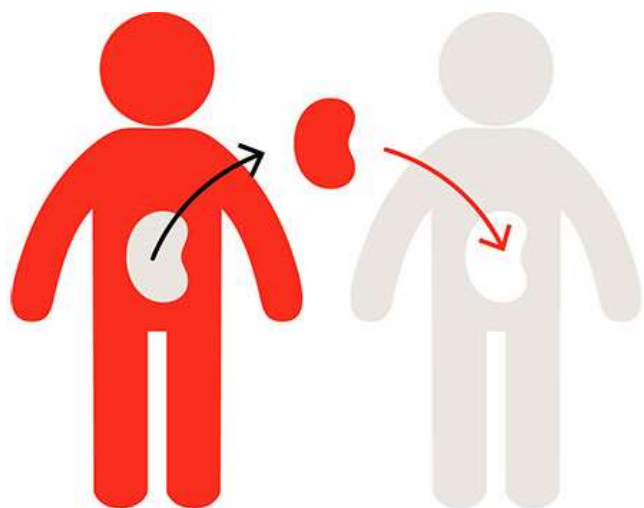
www.lambeth.gov.uk/healthylifestyles



Exercise on referral



Barriers to engagement with exercise / physical activity...



Fatigue



Weight
management



Multiple
appointments



Medication
side-effects



Exercise
engagement

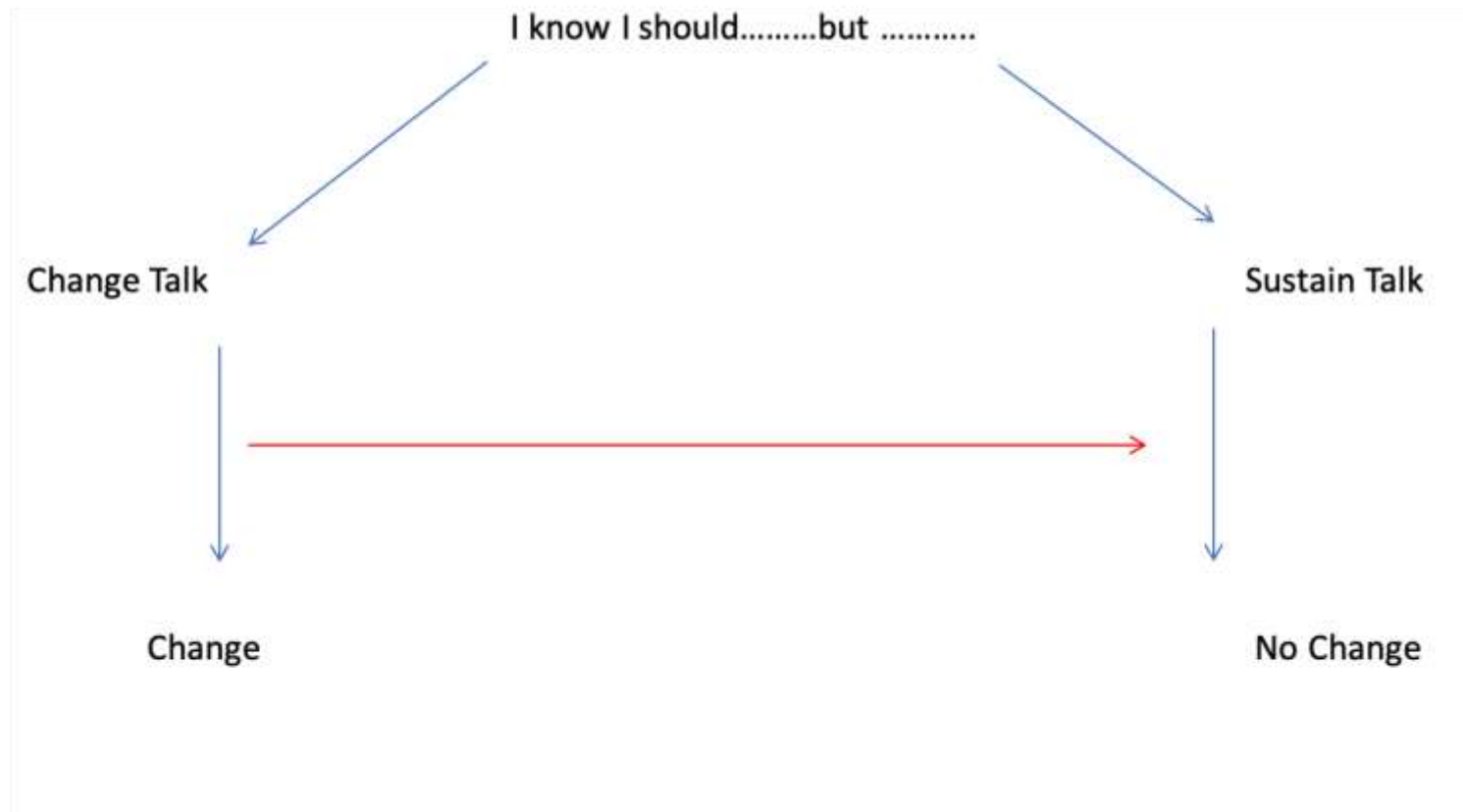
Maintaining motivation to Exercise

- 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



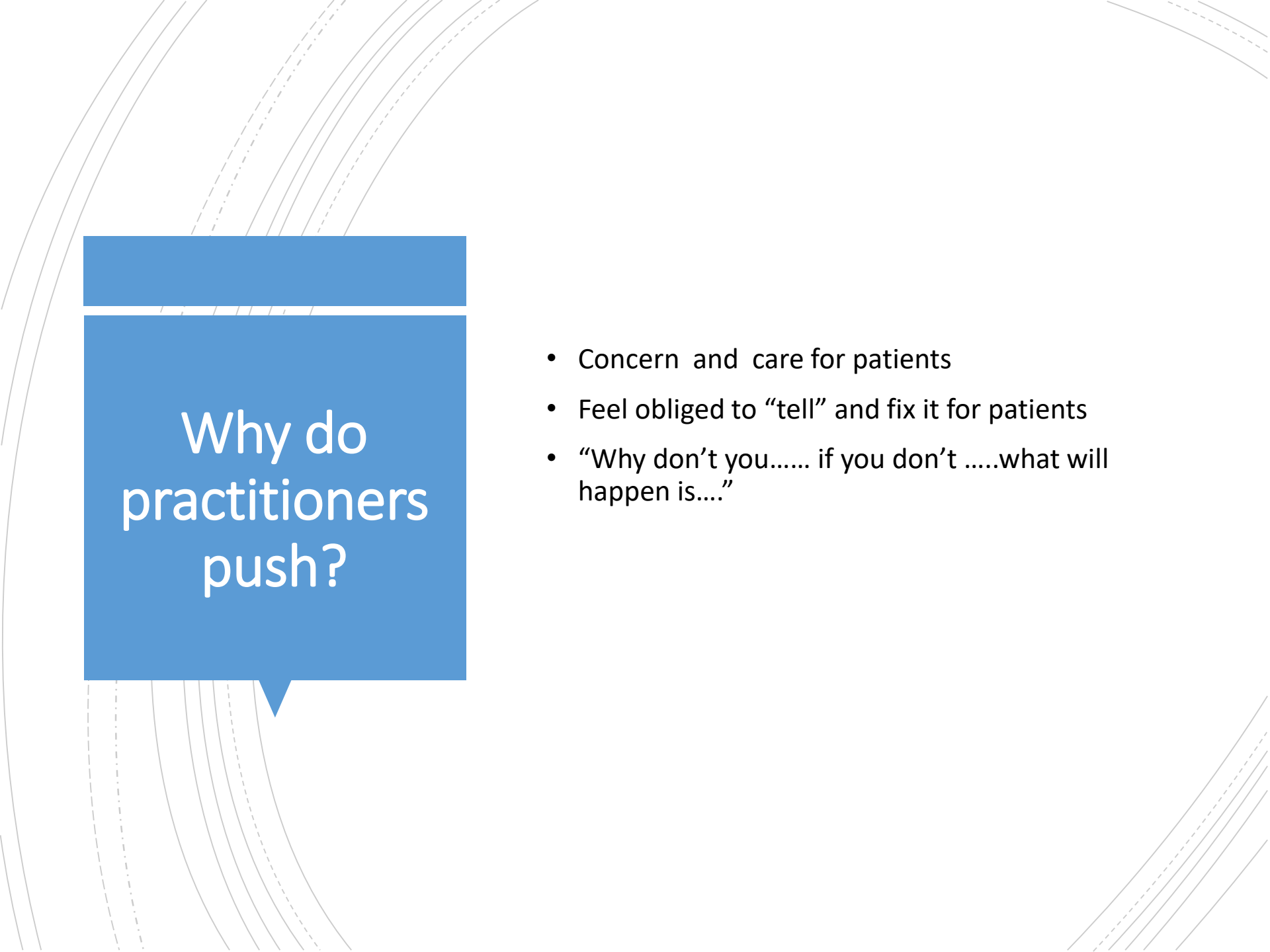
Ambivalence

“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

The background of the slide features several thin, curved lines in shades of gray, some solid and some dashed, creating a sense of motion or flow. A blue speech bubble shape is positioned on the left side, containing the main title.

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’twhat 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?
- 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

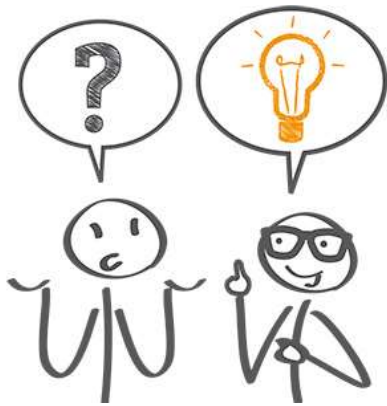


A lot of our patients struggle to keep to active, how about you?

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 your 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



ASK



SHARE



ASK

