Transforming AKC: Keeping people active

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Consultant Kidney Physiotherapist

March 2025

Disclosures

- Co-founder of Kidney Beam
- Invited speaker opportunities – GSK, Baxter, Davita

Who?

WHY?

What?

How?

People in AKCC - Who should we be seeing?

Who should we be encouraging to be more active?

New patients
People who are living with frailty
People preparing for a kidney transplant
People preparing for dialysis
People preparing for supportive care pathway

……..EVERYONE!

Individuals

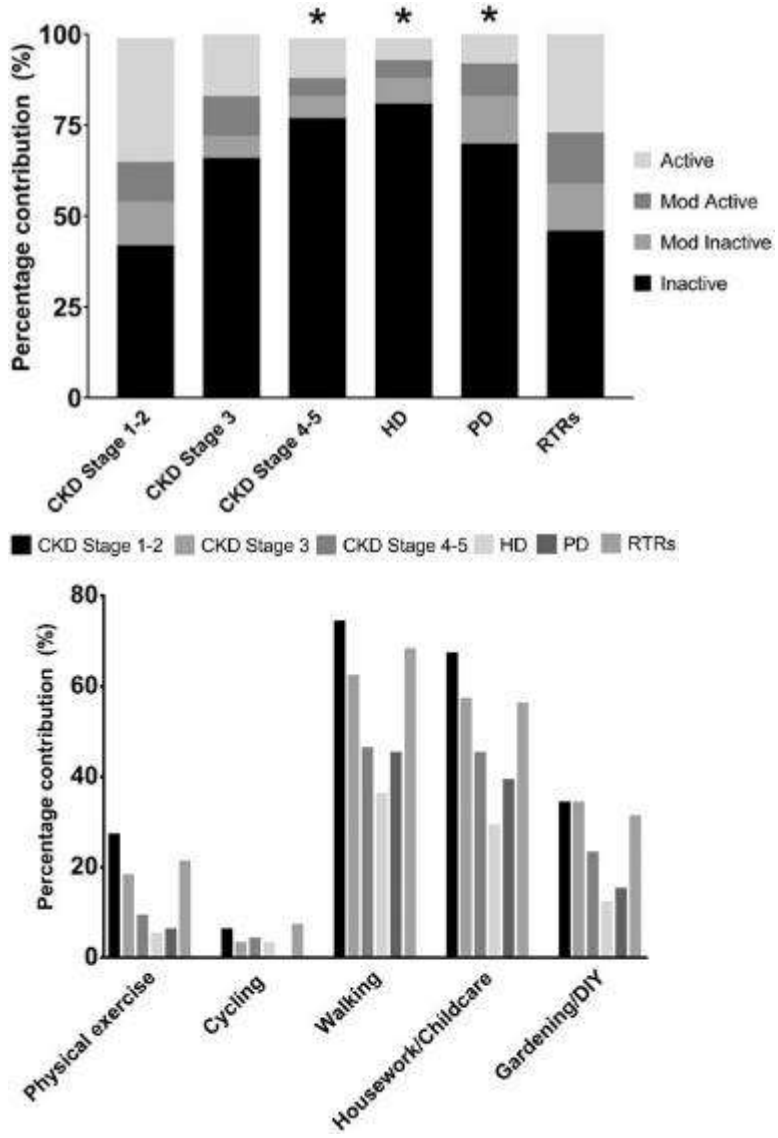
Why should people in AKCC be encouraged to be more active?

There is a real patient need

Physical activity and exercise levels in people with CKD are **incredibly poor** [1]

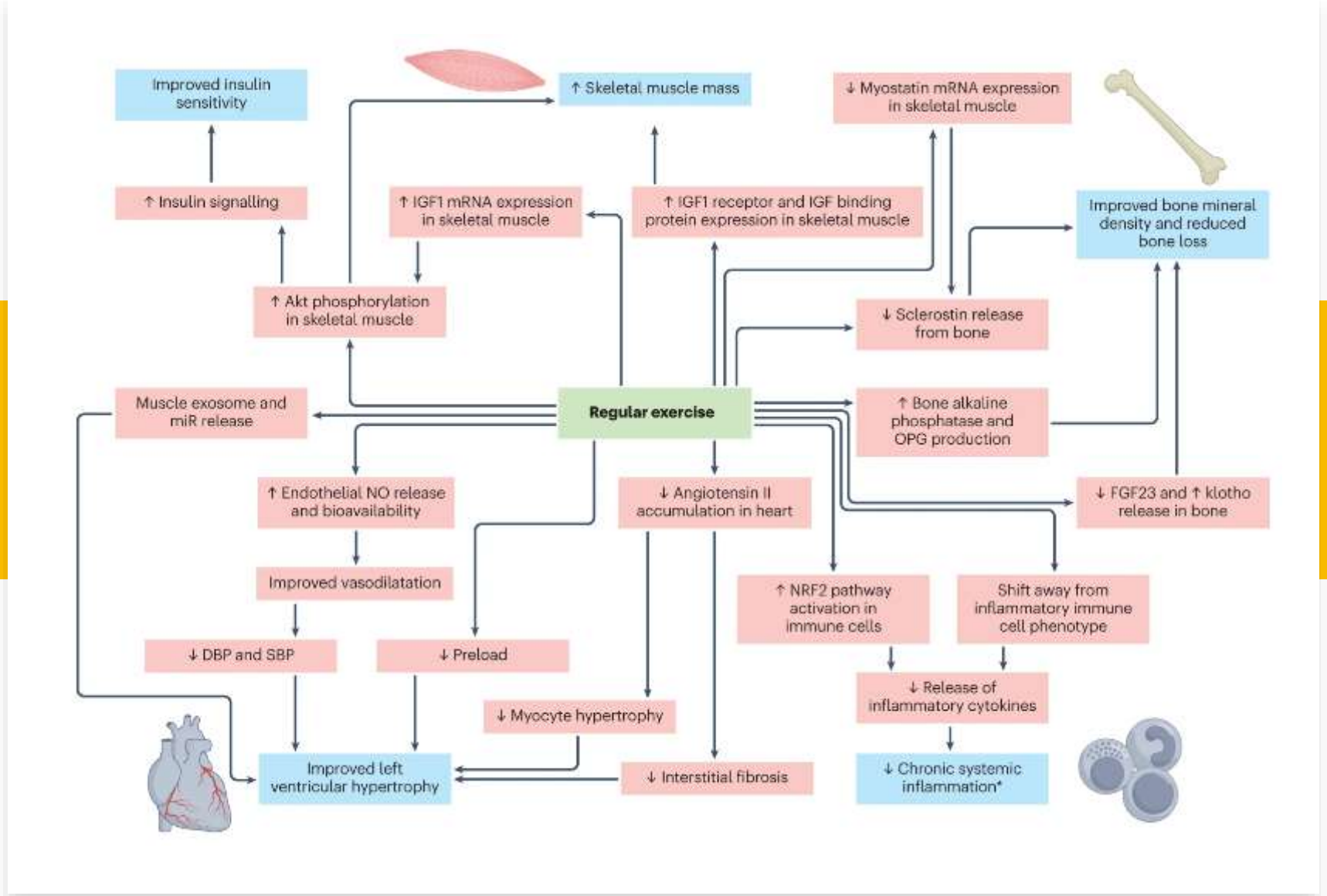
COVID-19 pandemic ↓ physical activity levels [2]

Low levels of physical activity **associated with adverse health outcomes**



References: [1] Wilkinson et al., NDT, 36(4), 2021; [2] Firat et al., Psych Heal Med, 28(3), 2023; [3] Antoun et al., Int J Env Res Pub Health, 18(6), 2021

The research suggests there are benefits to be had..



Potential mechanisms that could underlie the physiological benefits of aerobic and resistance exercise in CKD.

Bishop et al., Nat Rev Nephrol 19, 244–256 (2023).

We have clinical guidelines to meet..

Basic recommendations suggest physical activity counselling to meet WHO physical activity guidelines

Workforce recommendations now include kidney therapy recommendations as part of the key workforce

BRS
British Renal Society
Multi-professional working

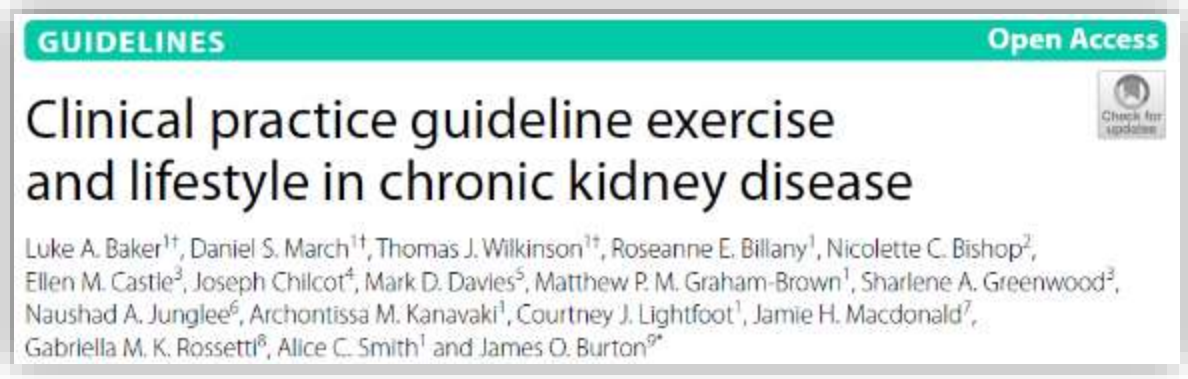
KIDNEY DISEASE
IMPROVING GLOBAL OUTCOMES
KDIGO

inical Practice Guideline for the Evaluation and M
Chronic Kidney Disease

NKF KDOQI clinical practice guidelines

World renown for improving the diagnosis and treatment of kidney disease, these guidelines have changed the practices of healthcare professionals and improved thousands of lives.

- UKKA **clinical practice guidelines for exercise and lifestyle** (2022)
- Recommendations for non-dialysis, haemodialysis, and transplant recipients
- Exercise interventions have many physical and psychological benefits
- Specific recommendations and considerations for different stages CKD
- Physical activity strongly encouraged in all people with CKD
  - aiming to meet WHO physical activity guidelines


GUIDELINES Open Access

Clinical practice guideline exercise and lifestyle in chronic kidney disease

Luke A. Baker[1†], Daniel S. March[1†], Thomas J. Wilkinson[1†], Roseanne E. Billany[1], Nicolette C. Bishop[2], Ellen M. Castle[3], Joseph Chilcot[4], Mark D. Davies[5], Matthew P. M. Graham-Brown[1], Sharlene A. Greenwood[3], Naushad A. Junglee[6], Archontissa M. Kanavaki[1], Courtney J. Lightfoot[1], Jamie H. Macdonald[7], Gabriella M. K. Rossetti[8], Alice C. Smith[1] and James O. Burton[9*]

References: Baker, March, Wilkinson, et al., BMC Neph, 23(75), 2022

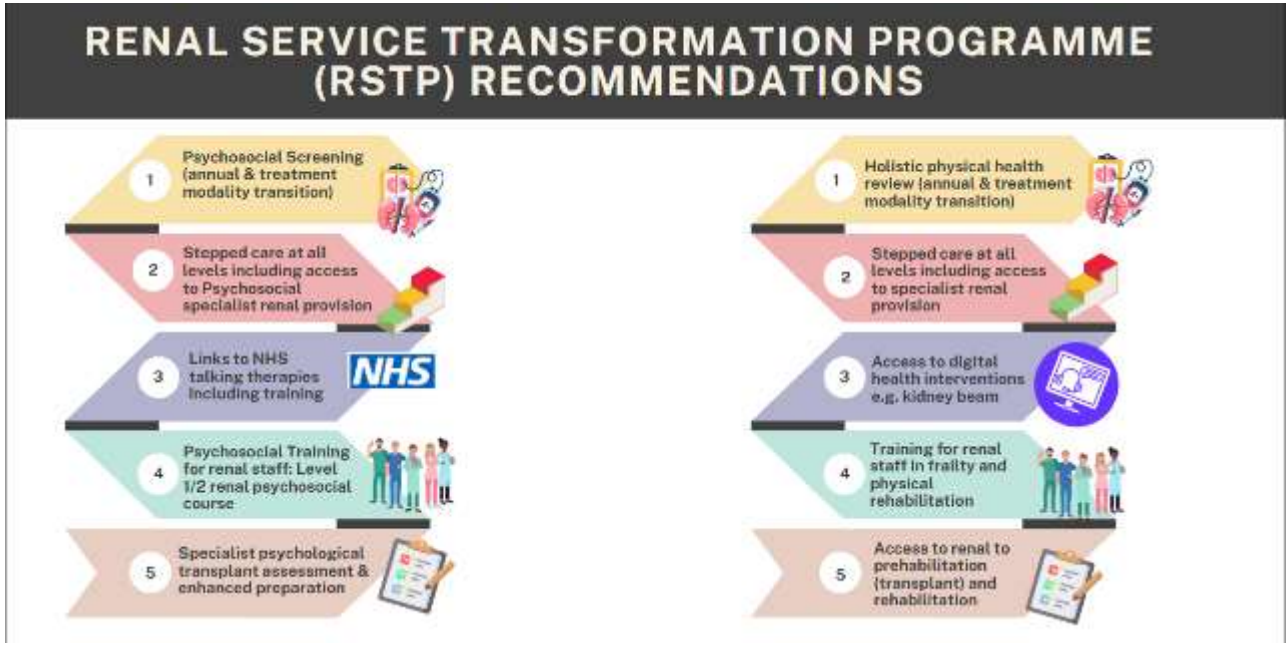
And national recommendations..

Clinical Kidney Journal, 2023, vol. 16, no. 11, 2185–2193

https://doi.org/10.1093/ckj/sfad116
Advance Access Publication Date: 19 May 2023
Original Article

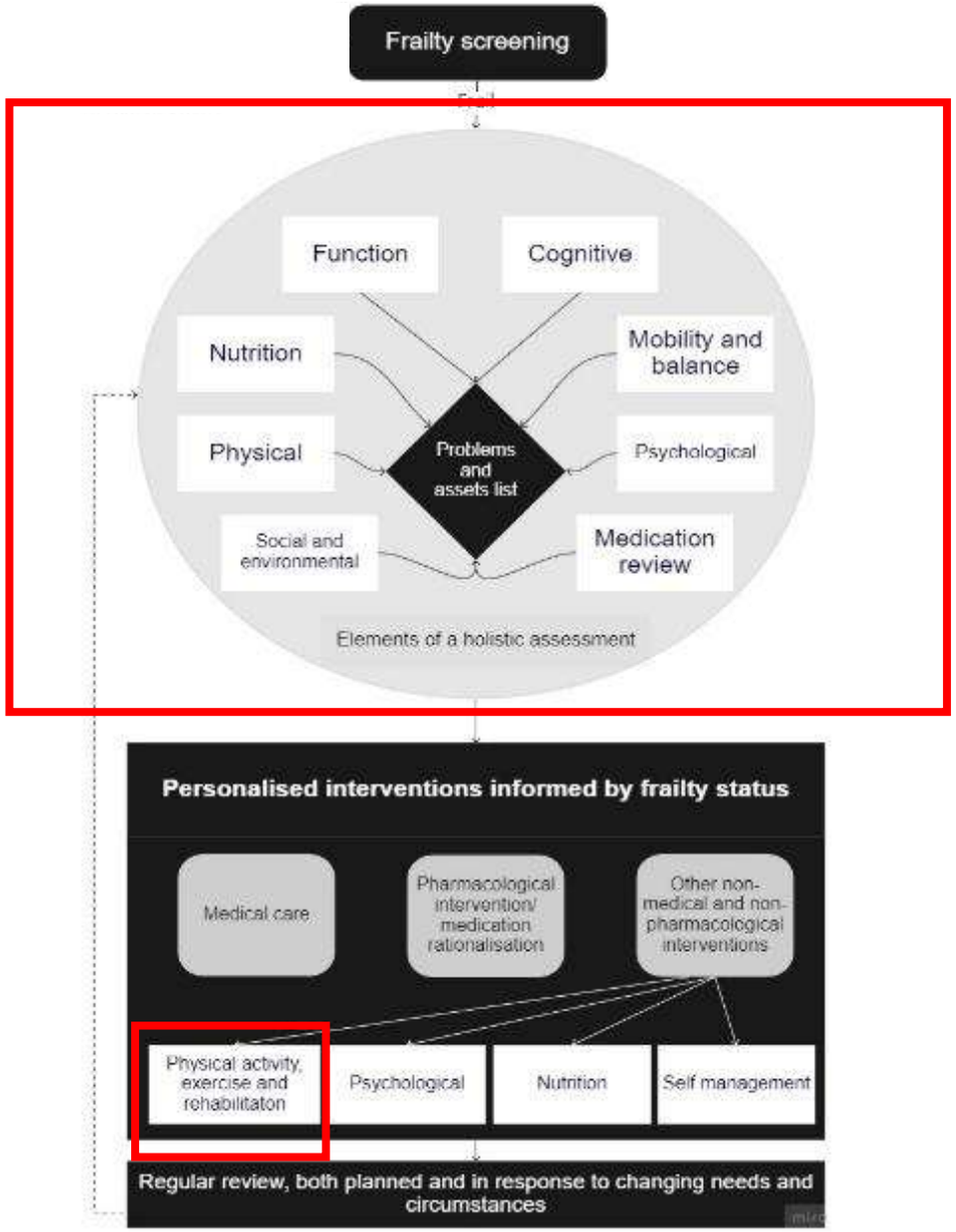
ORIGINAL ARTICLE

Achieving consensus on psychosocial and physical rehabilitation management for people living with kidney disease



How can we find out what types of exercise or physical activity will be of benefit?

Comprehensive geriatric assessment



"A multidimensional, multidisciplinary process which identifies medical, social and functional needs, and the development of an integrated/co-ordinated care plan to meet those needs"

(Mayes et al, Kidney and Dialysis, *2*(2), 245-261.
Parker SG et al, Age and Ageing 2018 1, 47 (1) 149-55).

Holistic physical needs assessment

Falls

- No. of falls in last year
- Falls risk (FRAT) score

Sit to stand 60

- No. of sit-to-stand transfers in 60 sec

Frailty

- Frailty assessment e.g Clinical Frailty Score

Physical Activity Vital Score

- 3 simple questions

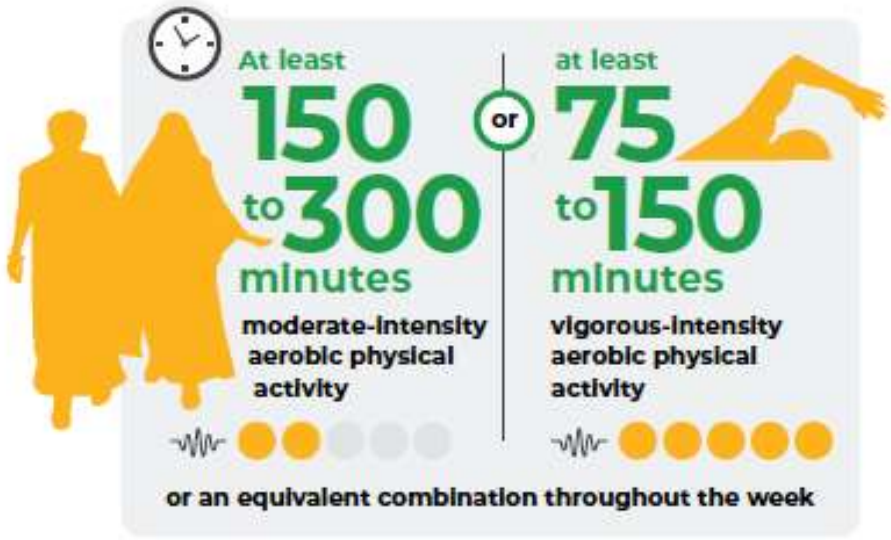
Sit to stand 5

- Time to complete 5 sit-to-stand transfers

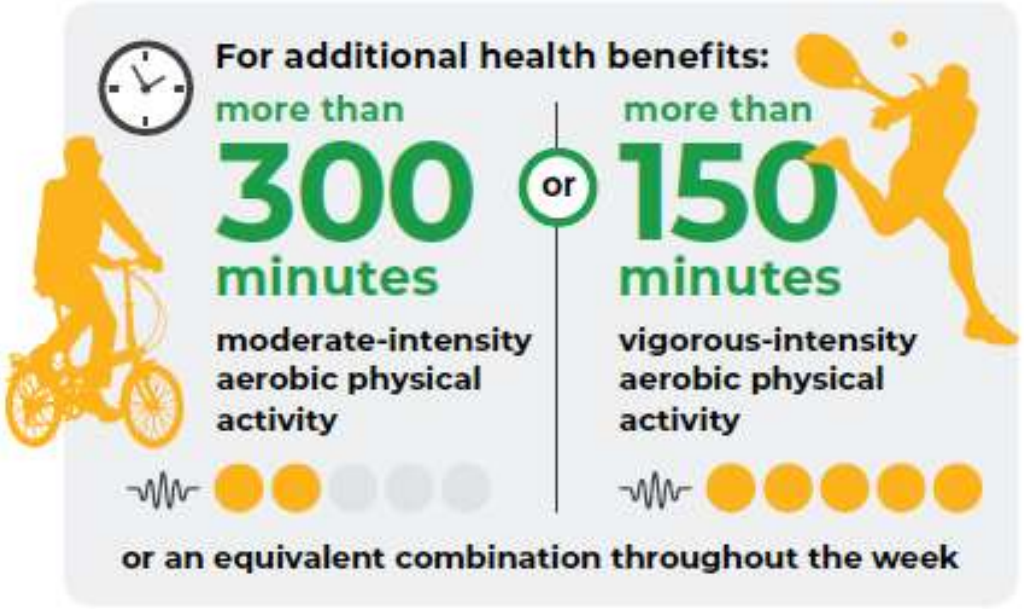
What approach / type of physical activity should we recommend for people attending AKCC?

WHO 2020

- **All adults** should undertake regular physical activity.
- Physical activity refers to all movement including during leisure time, for transport to get to and from places, or as part of a person's work

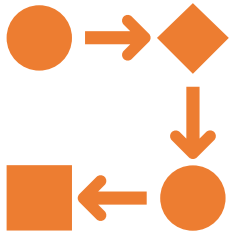


World Health Organization



- Adults and older adults with chronic conditions (such as CKD) should **limit the amount of time spent being sedentary.**
- **Replacing sedentary time with physical activity** of any intensity (including light intensity) provides health benefits
- To help reduce the detrimental effects of high levels of sedentary behaviour on health, adults should aim to do more than the recommended levels of moderate- to vigorous-intensity physical activity

WHO 2020 physical activity recommendations: … out of reach for some…



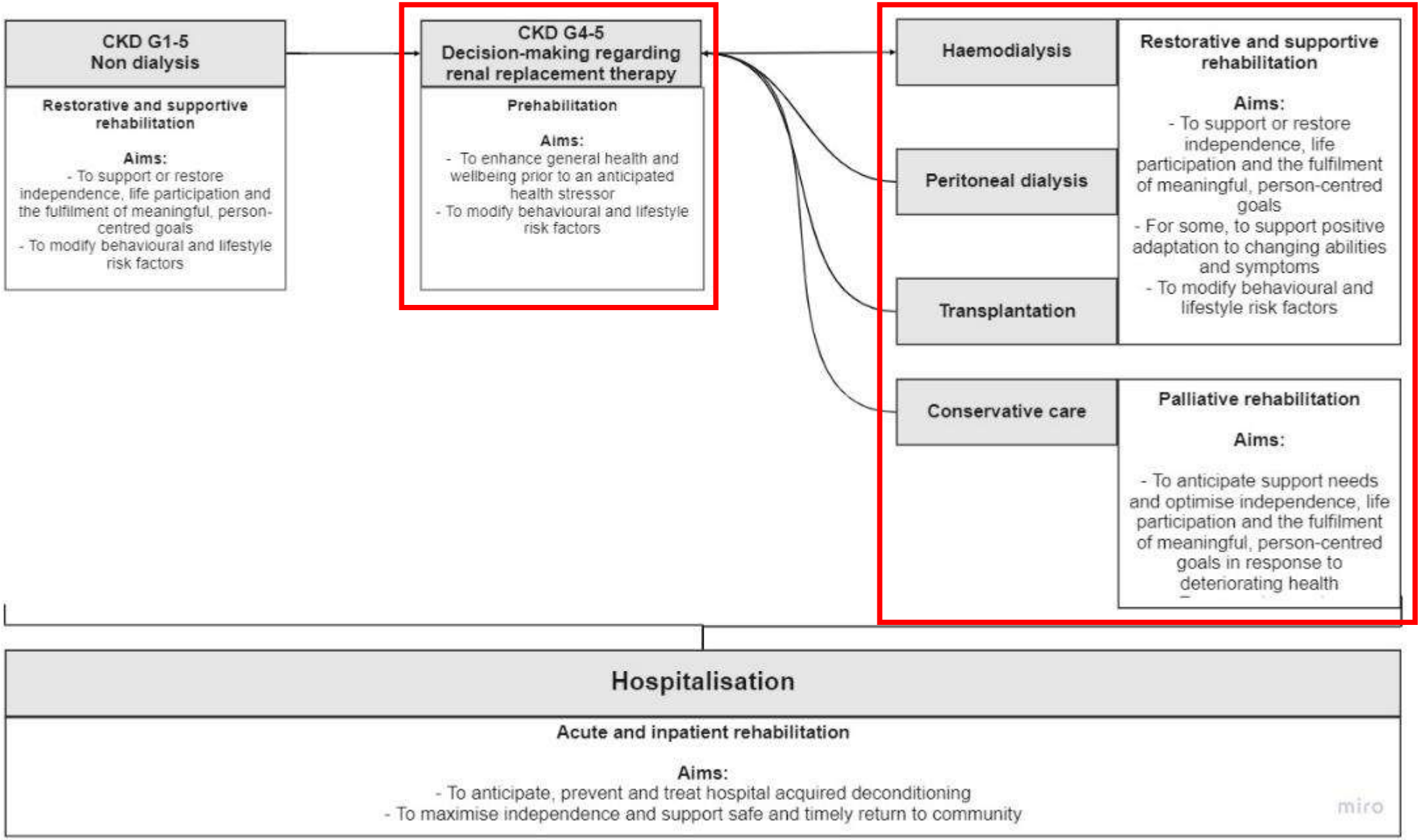
Adjust to current abilities

Implement stepwise, gradual progression

Promote light-intensity activities…

Small increases in physical activity count!

Rehabilitation and physical activity



Mayes et al, Kidney and Dialysis, *2*(2), 245-261.

Prehabilitation

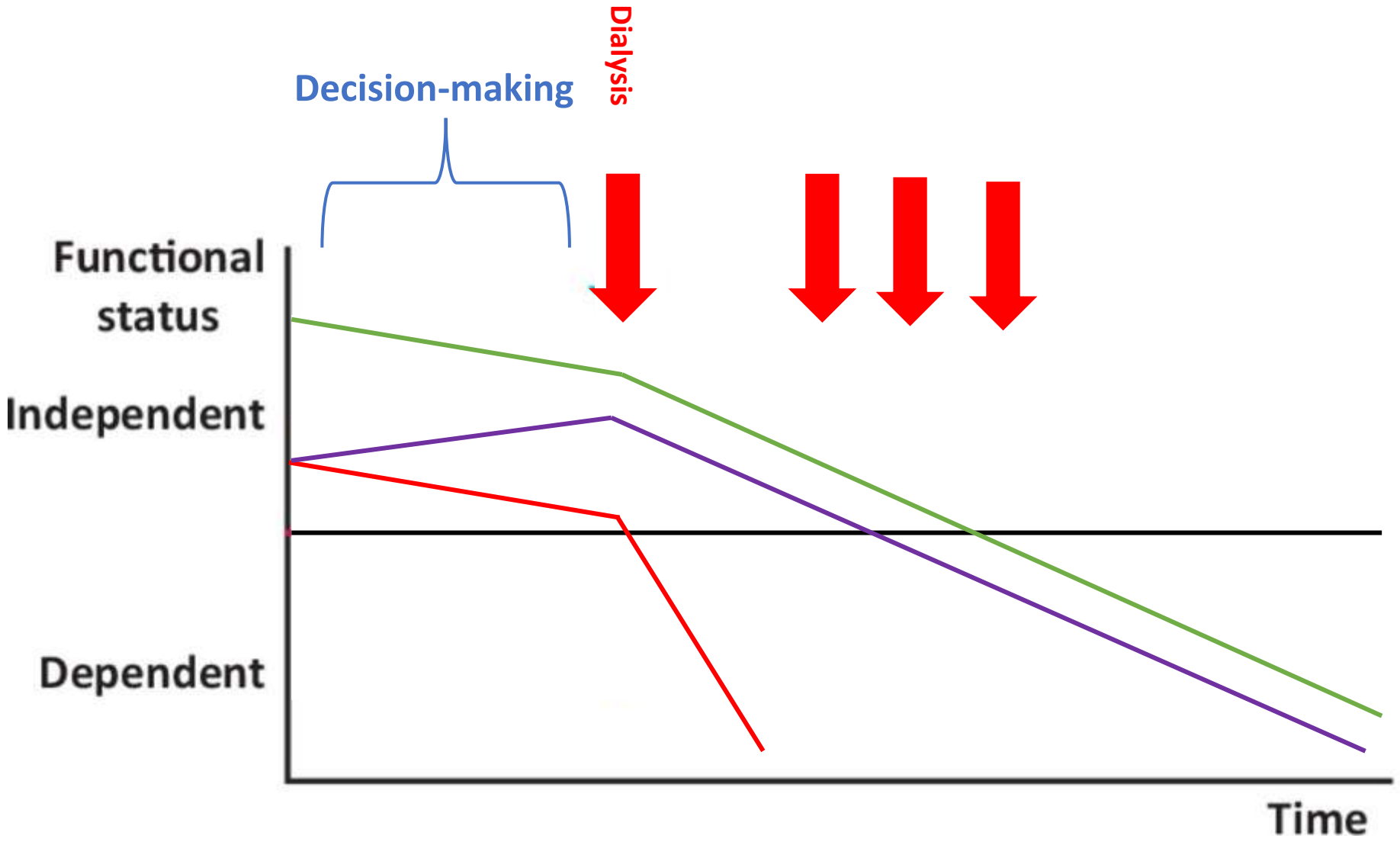
Prehabilitation

‘Prehabilitation’ is an evidenced based multicomponent approach to improving patients’ response to physiological stressors which may trigger functional decline.

By intervening to modify behavioural and lifestyle risk factors, the ‘physiological reserve’ of the patient is enhanced to buffer the physiological stress response, reduce risk of complications, accelerate recovery.

The preoperative / preparation for dialysis treatment period is considered a ‘teachable moment’ - individuals may be more receptive to structured behavioural intervention.

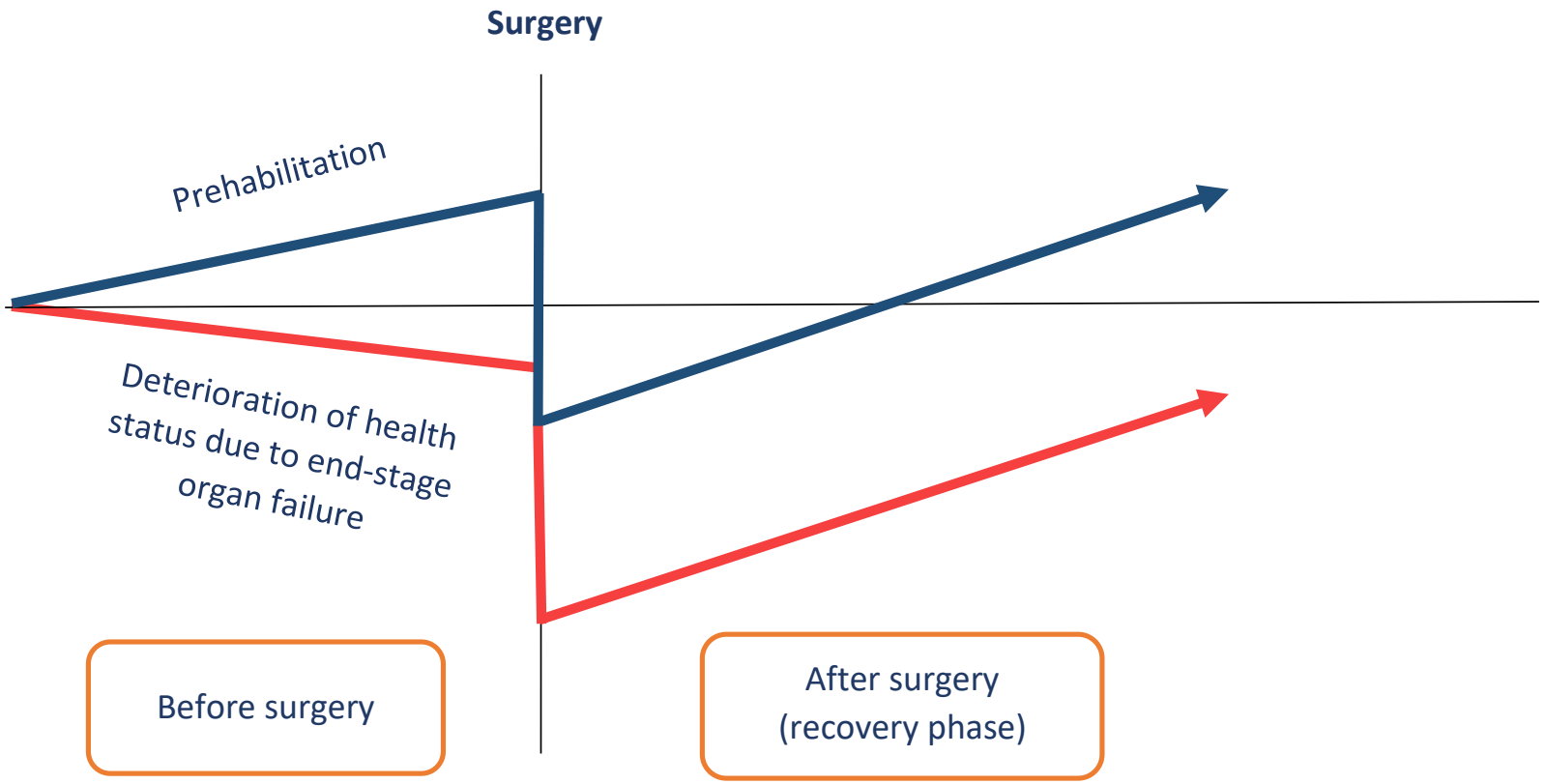
Prehabilitation for dialysis therapies



(Adapted from Singh SJ, Danjoux G, Durrand J. Prehabilitation. Clin Med.2019;19:6)

(Fitzpatrick J, Kidney360. 2021 Sep 9;2(9):1455.)

Prehabilitation for kidney transplantation



Expectations for SOTCs:

- Better overall condition pre-transplant
- Enhanced recovery and better outcomes post-transplant
- Better Health-related Quality of Life pre- and post-transplant

Adapted from: Carli et al. Curr Opin Clin Nutr Metab Care; 2005

Prehabilitation

To date the effects of a prehabilitation approach have mainly been explored in those listed for transplantation

In this group, prehabilitation is associated with improvements in:

Characteristics associated with frailty

(Lorenz EC, et al. Clin Transplant. 2020;34: e14017
McAdams-DeMarco MA, et al. Clin Transplant. 2019;33:e13450)

In those preparing for dialysis, one small randomised trial demonstrated modest improvement/attenuation in physical activity levels when:

(Anand S, et al. Kidney Medicine. 2021 Nov 1;3(6):951-61.)

Exercise for frailty

Numerous systematic reviews show that exercise programmes including:

Leads to significant improvements in:

- Gait speed
- Strength

and may improve:

- ADLs
- Physical Function
- Balance
- Frailty status

(Cadore EL et al, Rej Res. 2013 Apr 1;16(2):105-14. Giné-Garriga M, et al. Arch Phys Med Rehab. 2014 Apr 1;95(4):753-69. de Labra C et al. BMC geriatrics. 2015 Dec;15:1-6.)

- Home based exercise is feasible in CKD stage 3b-5 with potential improvements in function and symptoms *(Nixon, Plos One, 2021)*

Exercise for falls

In a CKD population, multifactorial exercise programmes appear to:

- Reduce the risk of falls
- Improve balance, strength and confidence

(Bennett et al, NDT 2016
Hellberg et al, Plos One 2018
Frih et al, Dis Rehab 2017)

What programmes / resources can we recommend for people attending AKCC?

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

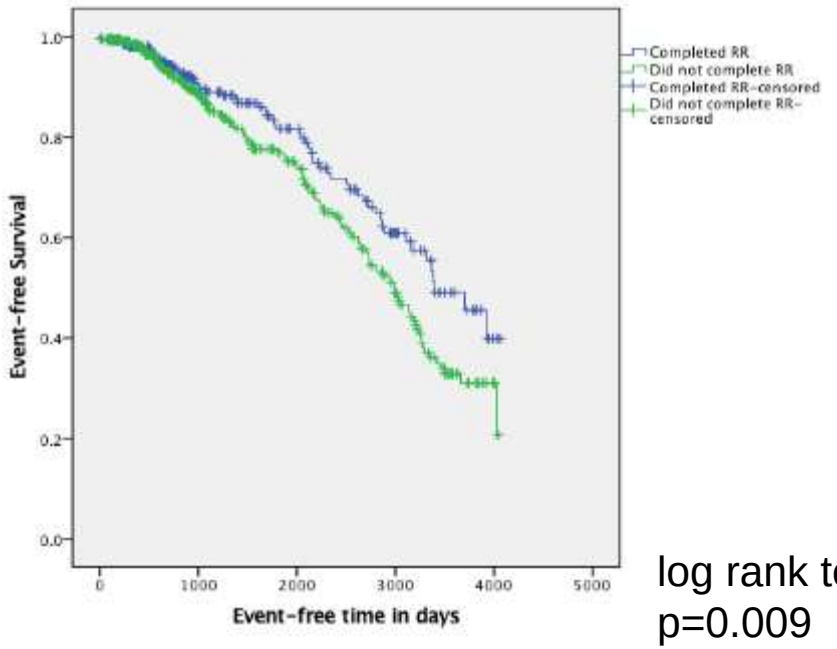
If you are interested in attending our renal rehab class at East Dulwich Community Hospital contact our renal rehab team on

0203 299 6725

Nephrol Dial Transplant (2019) 34: 618–625
doi: 10.1093/ndt/gfy351
Advance Access publication 30 November 2018

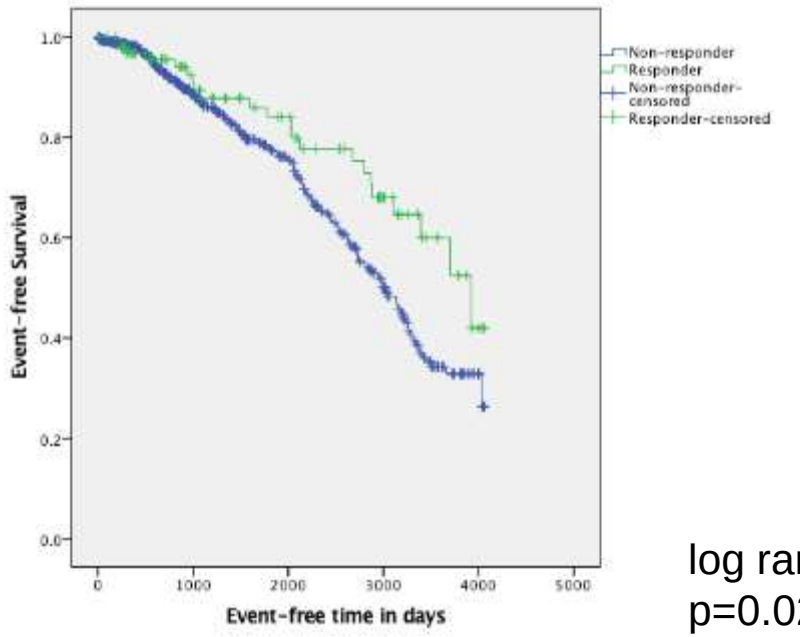
ndt
Nephrology Dialysis Transplantation

Mortality and morbidity following exercise-based renal rehabilitation in patients with chronic kidney disease: the effect of programme completion and change in exercise capacity



log rank test
p=0.009

44% referrals 'completers'

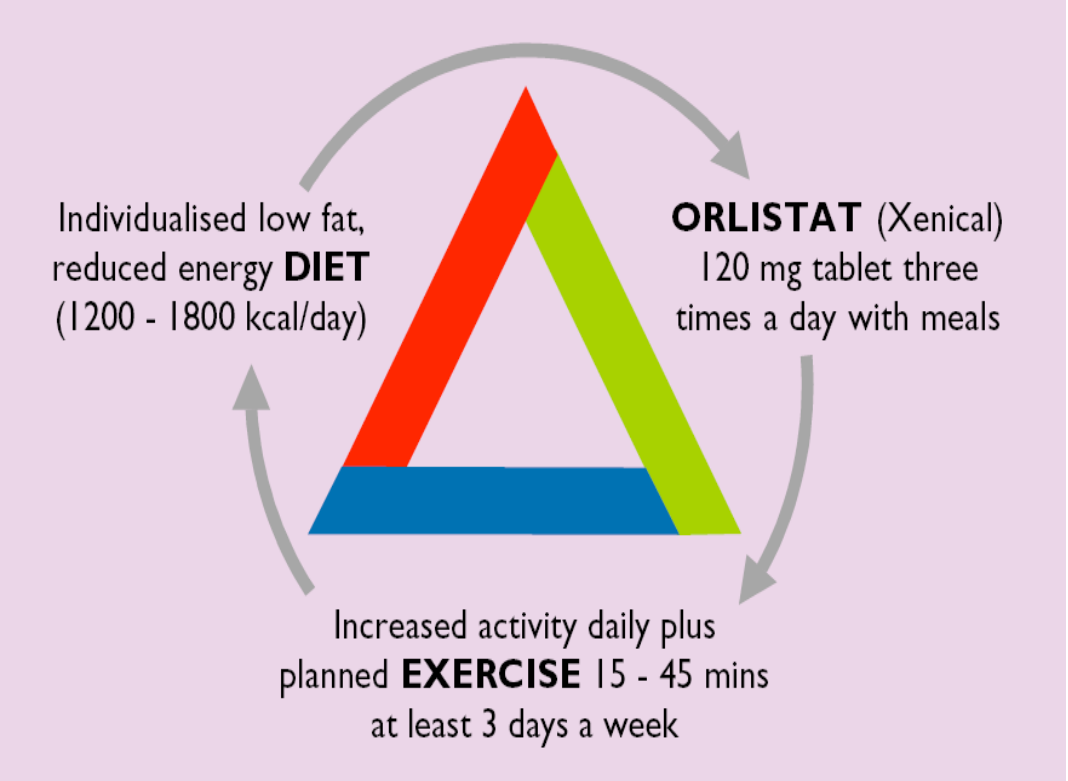


log rank test
p=0.02

Responders (improvement >50m ISWT)

Healthy living clinic

- Patients attend individual appointments once a month for 6 months, with follow up at 9 and 12 months
  - 20 min appointment
  - Individualised goal setting
  - Food and activity diaries
  - Individualised patient education
  - Motivational interviewing



Nephrol Dial Transplant (2008) 23: 263–268
doi:10.1093/ndt/gfm511
Advance Access publication 31 October 2007

Original Article

A structured weight management programme can achieve improved functional ability and significant weight loss in obese patients with chronic kidney disease

Sharlene A. Cook[1], Helen MacLaughlin[2] and Iain C. Macdougall[3]

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

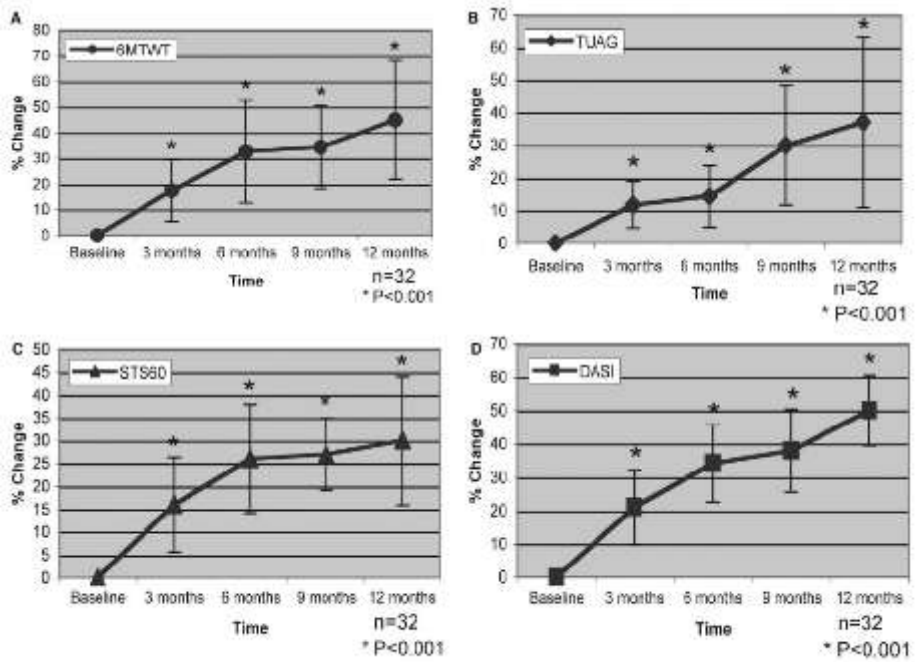
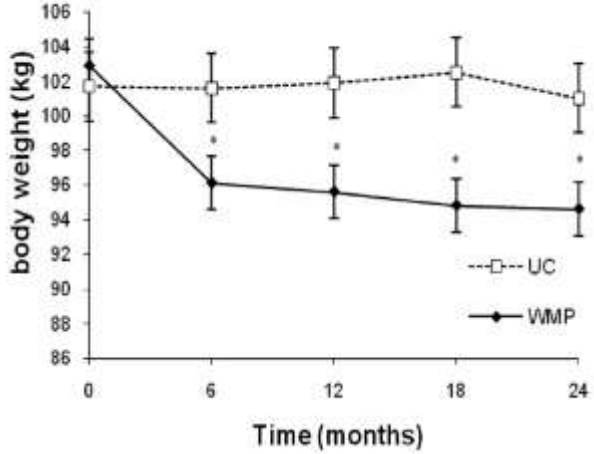


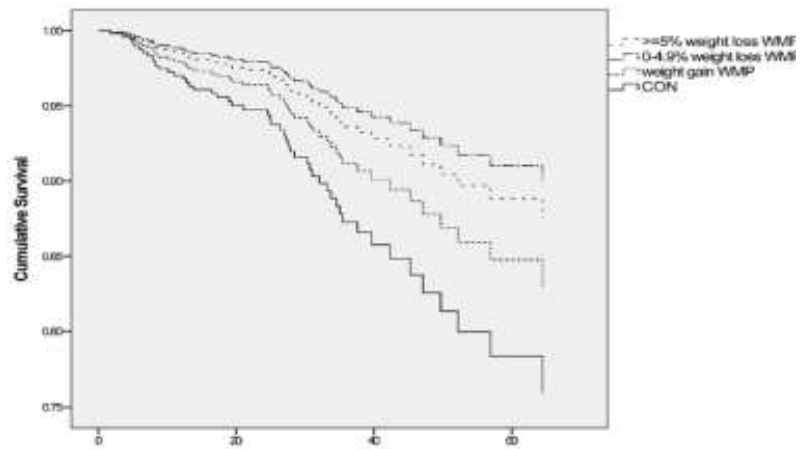
Fig. 1. Mean percentage change in exercise performance measures: (A) 6 min timed walk test (6MTWT), (B) sit to stand 60 (STS 60), (C) timed up and go (TUAG) and (D) Duke's activity status index (DASI), from baseline to 12 months in obese CKD patients recruited onto the WMP.

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



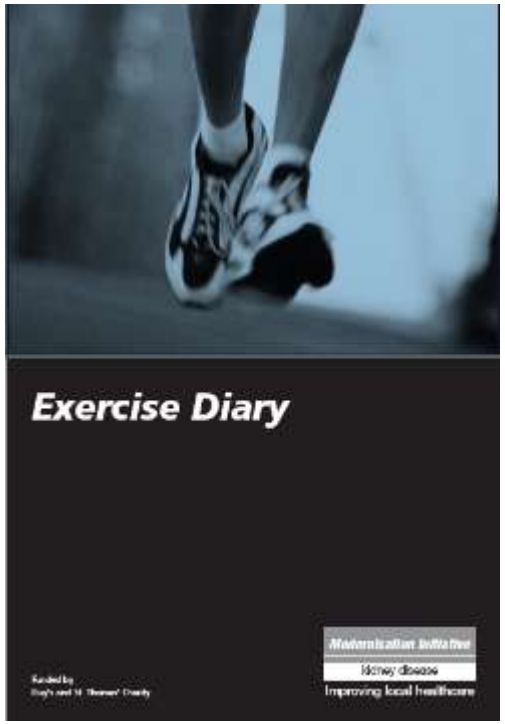
Participation in a Structured Weight Loss Program and All-Cause Mortality and Cardiovascular Morbidity in Obese Patients with Chronic Kidney Disease

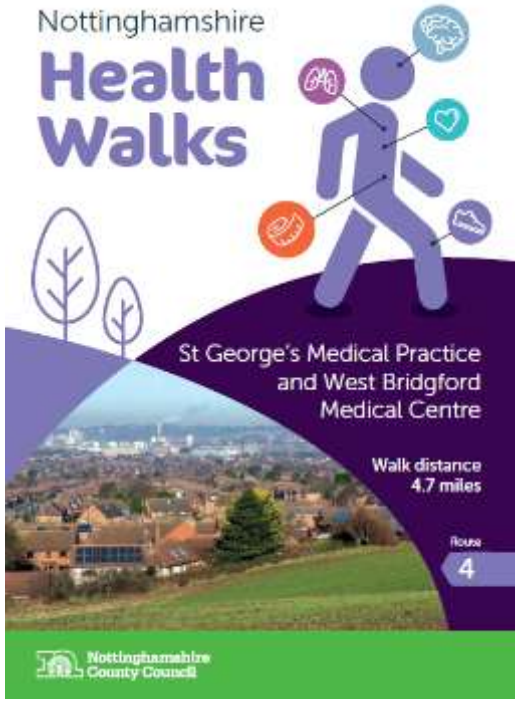
Helen L. MacLaughlin, RD, PhD*†, Heidy L. Hall, BSc (Hons), PhD†, Joanne Conby, B.A.‡, Thomas A. B. Sanders, PhD‡ and Iain C. Macdougall, MD, FRCP†



Workforce

Only 3 out of 72 kidney units in UK have a kidney physiotherapist


Exercise Diary
Modernisation Initiative
Kidney disease
Improving local healthcare


Nottinghamshire
Health Walks
St George's Medical Practice and West Bridgford Medical Centre
Walk distance 4.7 miles
Route 4
Nottinghamshire County Council


11:53 pm
All
Steps
Day
Week
Month
Year
Steps
8,038 steps
Show All Data
Add Data Point
Share Data
Show on Dashboard


couch to
5k
change 4 life
In association with
NHS choices


Park and Walk to Work
Park for free and raise your step count!
Free Car Parks in Enniskillen
Castle Park Car Park
Hollyhill Link Road Car Park
Queen Street Car Park
Wellington Place Car Park
Estimated walking time
5 min walk to town centre
11 min walk to town centre
8 min walk to town centre
8 min walk to town centre
Adults are recommended to have 20-30 minutes of physical activity a day*


PRIFYSGOL
BANGOR
UNIVERSITY
Move Project

Enhanced Recovery After Surgery in transplantation

What is the Enhanced Recovery After Surgery (ERAS) programme?

ERAS is a multimodal perioperative rehabilitation programme with published evidence supporting the benefit it provides for patients and clinicians.

eras Tx Enhanced Recovery After Surgery in Transplantation

Aim of the programme

By considering ERAS principles in transplantation surgery we aim to improve outcomes for patients and clinical staff in the following ways:

- Empower patients to play a key role in their clinical care
- Reduce the risk of potential post-operative complications, including exposure to hospital acquired infections
- Reduce opioid analgesic requirements and associated complications
- Improve efficiency of bed occupancy and resource utilisation
- Increased autonomy and efficiency for the clinical team

Pre-operative

Pre-operative education and counselling

Prehabilitation and patient optimisation

Formal prehabilitation can be resource intensive. However, there are elements of patient optimisation that are relatively easy to adopt.

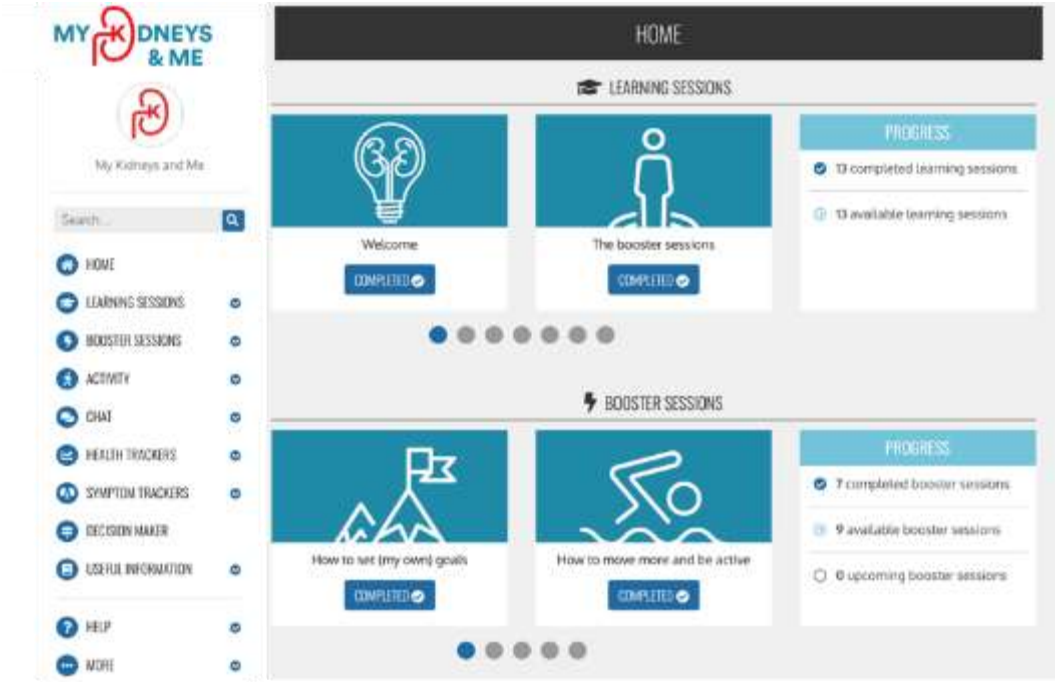
Core elements include:

- Physical activity, dietary support and weight management advice
- Smoking cessation and substance misuse support
- Education around the importance of maintaining cardiovascular health and keeping well on the transplant waiting list

Desirable elements include:

- Development of a formal prehabilitation programme to include optimisation of physical fitness and function and ongoing monitoring of physical activity on the waiting list
- Psychosocial support to include behaviour change and patient empowerment

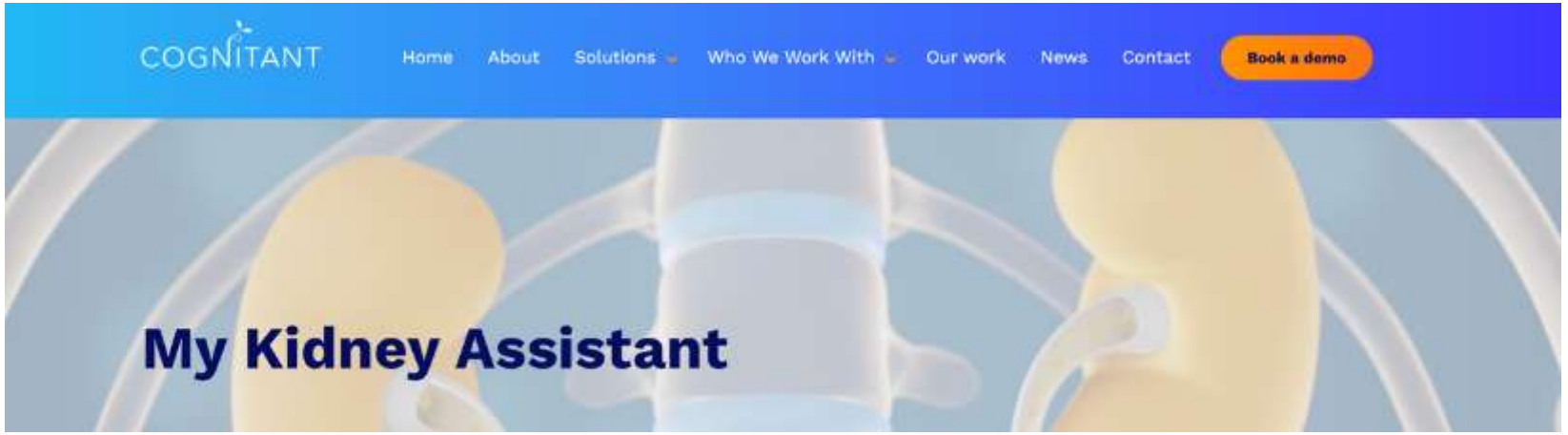
These could be delivered by a mixture of face to face and virtual support.



MY KIDNEYS & ME

LEICESTER KIDNEY LIFESTYLE TEAM

My Kidneys & Me is an interactive online lifestyle education programme for people with a kidney condition to help provide the knowledge, skills, and confidence to look after their own health.



A scientifically-proven* app delivering kidney-specific exercise & lifestyle management for all people with CKD

- Evidence-based content tailored to all stages of kidney disease delivered both live and on-demand
- Structured exercise and lifestyle programmes including prehabilitation, renal rehab and living well on dialysis
- Professional and peer support from specialist physios and health coaches

For patients it significantly improves...

- ☆ Mental health & physical function
- ☆ Ability to self-mange their care
- ☆ Symptoms of fatigue, anxiety & depression
- ☆ Social engagement & reduces social isolation

For the NHS it reduces...

- ☆ Planned hospital, emergency care visits and bed days
- ☆ Use of medical professionals, especially physios
- ☆ Prescribed medication usage
- ☆ Outpatient face-to-face appointments

** Greenwood et al (2023) The Lancet Digital Health*

Prehabilitation

kidney beam Kidney Disease

On-demand Classes | Programmes | Live Classes | Groups | Resources | About | My Kidney Beam

Dashboard | Goals | Resources | Messages | FAQ

Getting ready for Kidney Transplant - Pre-Dialysis Programme

What is prehabilitation or 'prehab'?

Prehabilitation or 'prehab' are terms used to describe a programme prior to surgery with the aim to support your physical, nutritional and mental health. By optimising your health before surgery the aim is to get you in the best position going into surgery, with the aim to support your recovery following the operation.

What is Prehab on Kidney Beam?

The Prehab on Kidney Beam programme has been developed to give you tools to prepare yourself physically and emotionally for having a kidney transplant.

This is designed specifically for people who are awaiting a kidney transplant who are not currently on dialysis.

What should I expect from the programme?

This prehab programme is across 12 weeks. It contains:

- Two exercise sessions per week
- Educational videos and resources, alongside tools to help you to focus on your physical and nutritional wellbeing, as well as mental health with the aim prepare you for an upcoming kidney transplant.

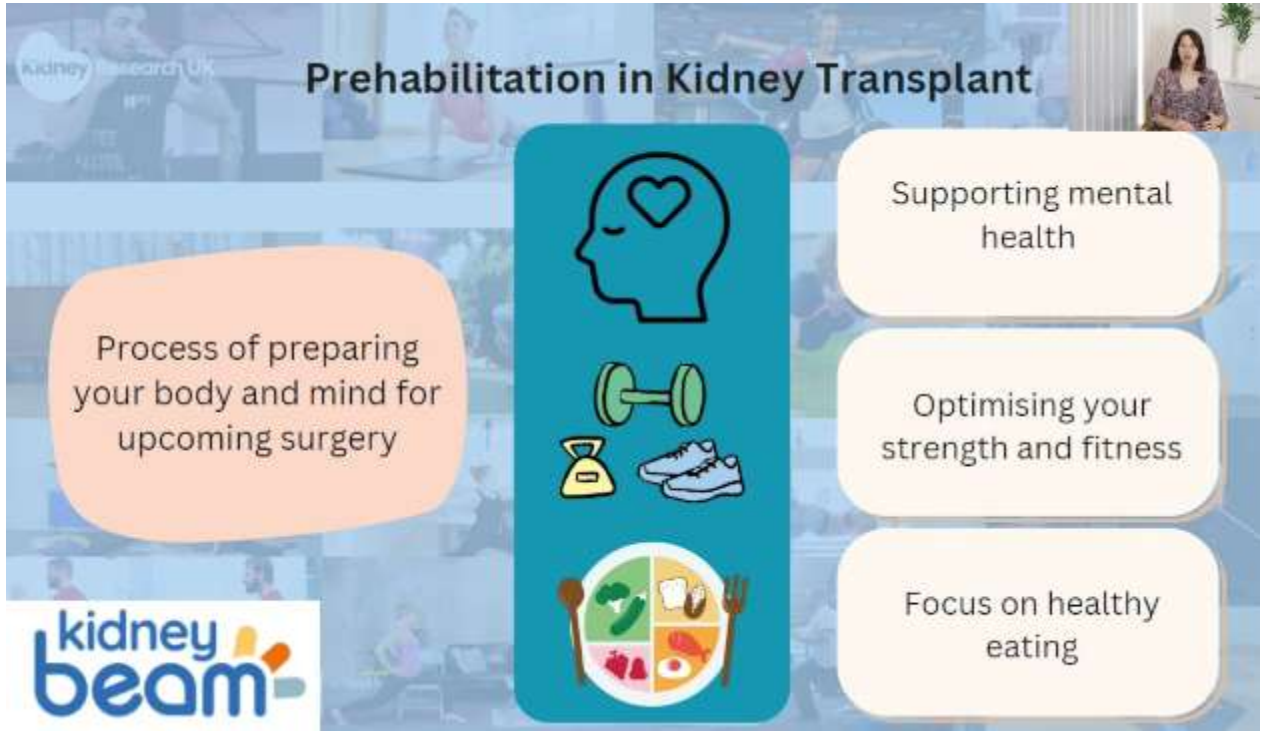
Who is this suitable for?

It is suitable for people who are beginners, or who prefer low impact activities. This programme is suitable for people waiting a kidney transplant who are not currently on dialysis.

If you would like to see further resources for our programme you can see them here Resources

Your programme progress

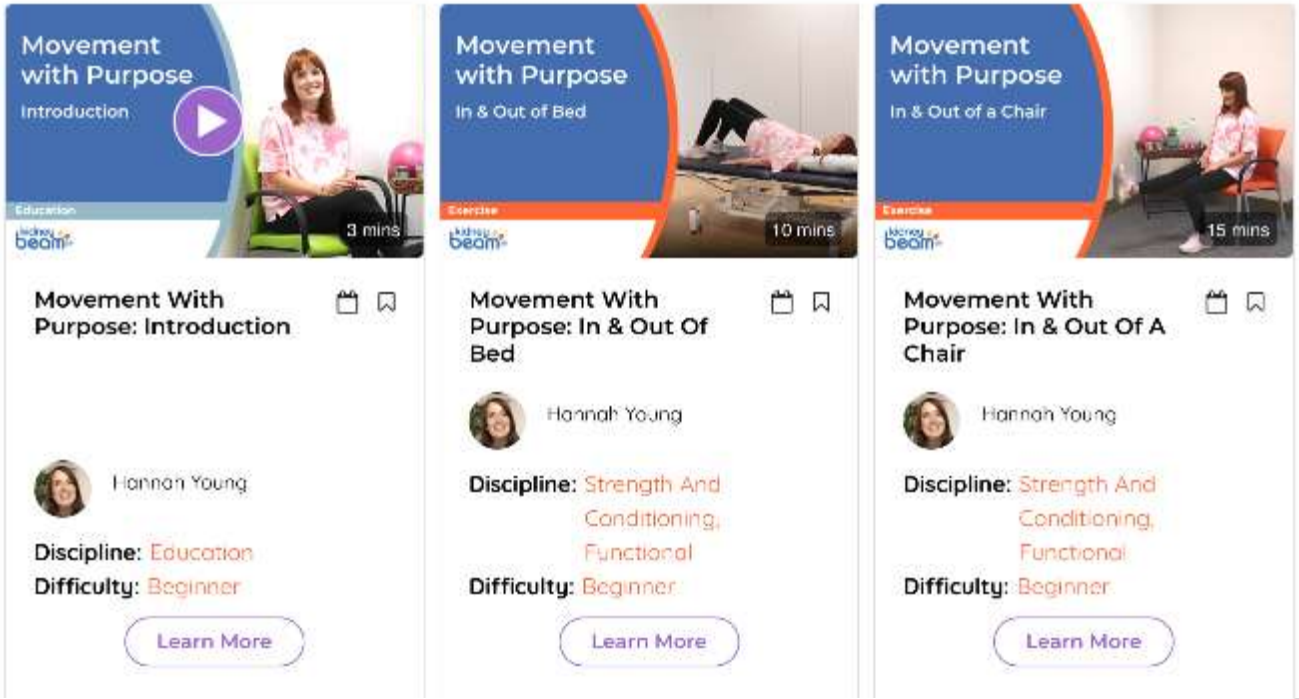
Welcome- what is prehab?



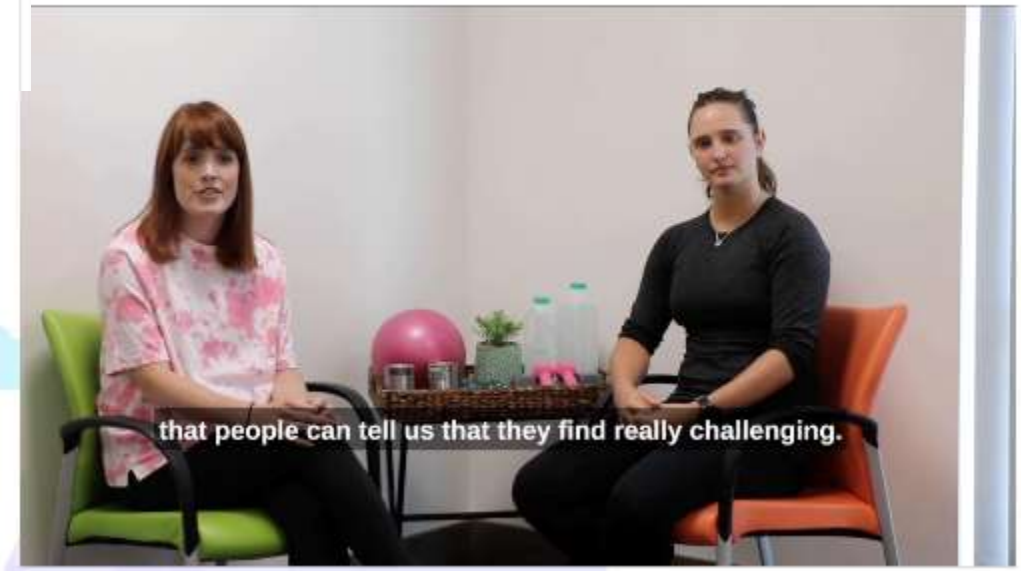
Movement with purpose

Movement with Purpose

7 Classes



kidney beam



In Summary

- Assessing and recommending physical activity should be part of the treatment plan for everyone attending AKCC.
- There are numerous health benefits to be gained if we can engage people with meaningful movement plans.
- AKCC is an ideal moment to prepare people for ESKD treatment.
- Movement should ideally be integrated within a holistic approach (with psychological support and nutrition).
- Lots of options to engage people with physical activity.

- **Doing nothing should never be an option!**