



# Prehabilitation (PREHAB) and Rehabilitation in Pancreas Cancer Surgery

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# Presentation Aims

- What is Prehabilitation?
- Why Prehabilitation?
  - Evidence
- How we do Prehabilitation in Liverpool ?

# What is Prehabilitation?

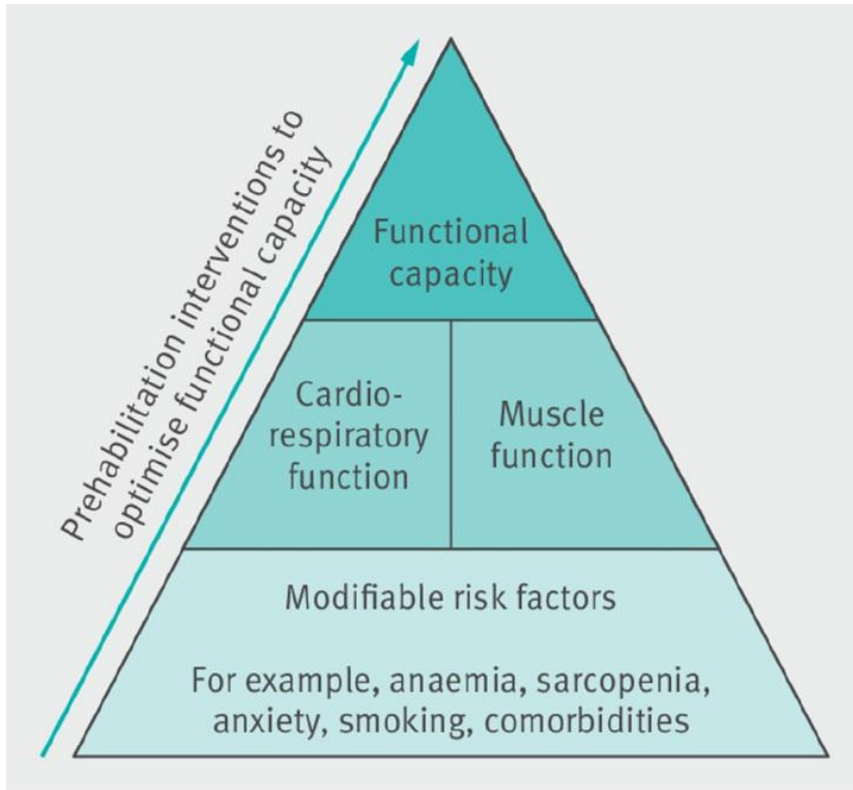
- Definition didn't exist in 2010
- Preoperative rehabilitation, or prehab, is a form of multidisciplinary healthcare intervention/s which aim to dampen side effects of medical or surgical intervention.

Wikipedia – 2021

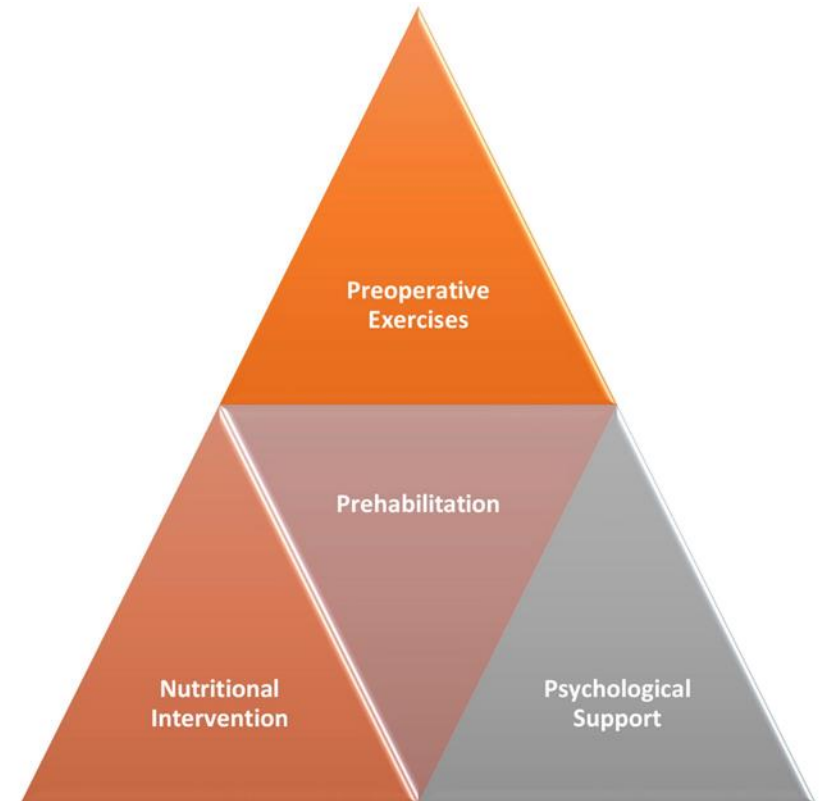
# What is Prehabilitation?

- A form of training that aims to prevent injury before its occurrence
- Minimises the negative impact of treatment
- Pre-treatment optimisation

# What is Prehabilitation?



**Fig 1** Prehabilitation triangle



**Fig. 2.** Trimodal approach in prehabilitation uses preoperative exercise, nutritional intervention and psychological support.

1. Winter-Blyth et al. BJS 2017
2. Kow, Ann Acad Med Singapore 2019

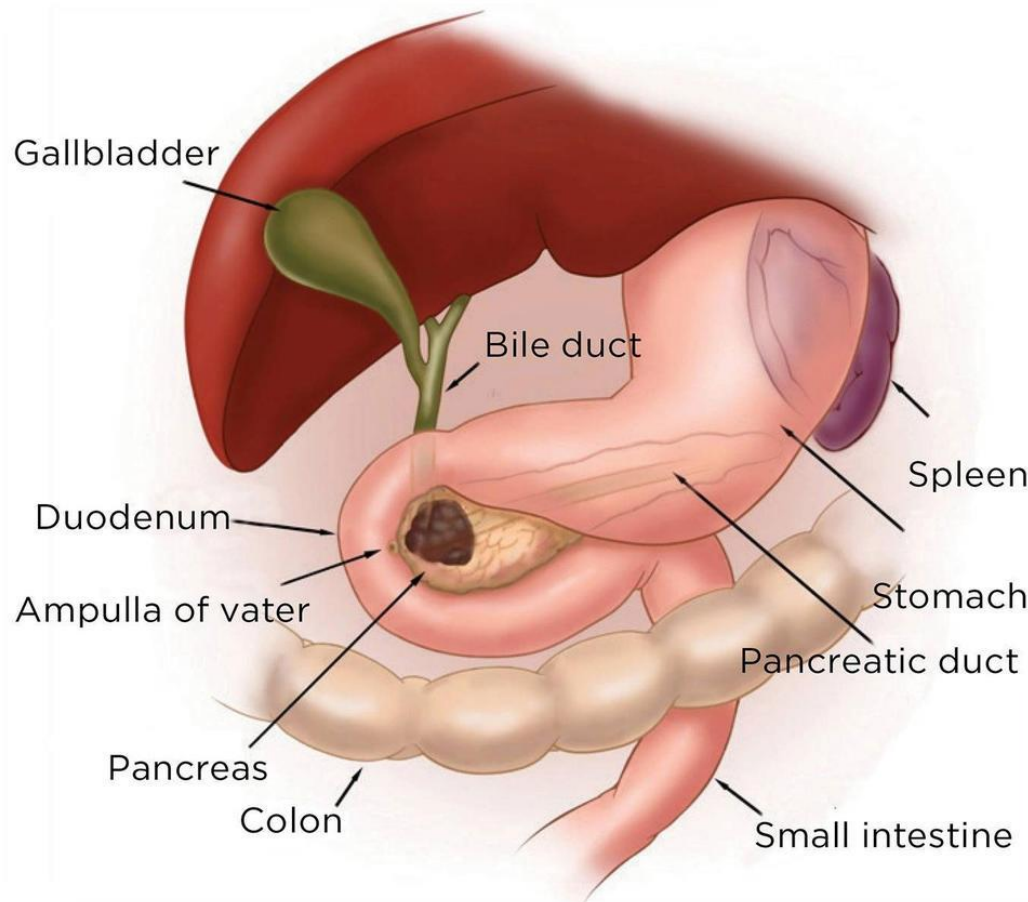
# What is Prehabilitation?

- Physical Training
- Nutritional Intervention
- Education
- Psychological Intervention/Support
- Occupational Therapy
- Pharmacological Optimisation
- Risk Factor Modification
- Social Care

# What is Prehabilitation?

- A form of training that aims to prevent injury before its occurrence
- Minimises the negative impact of treatment
- Pre-treatment optimisation

# Why Prehabilitation in Pancreatic Cancer patients ?





# Why Prehabilitation in Pancreatic Cancer patients ?

## The Pancreas Cancer Problem

- Survival has not improved in 40 years (1)
- More than 50% patients diagnosed die within 3 months (2)
- Two thirds die within 9 months (2)
- 16% operable at diagnosis (2)
- Only 8% to 10% undergo surgery (2)
- Surgery with chemotherapy is the only potential cure

1. [www.cancerresearchuk.org/health-professional](http://www.cancerresearchuk.org/health-professional) - Accessed May 2019
2. New insights on pancreatic cancer, PCUK, May 2019

# Why Prehabilitation in Pancreatic Cancer patients ?

- Metabolic consequences
  - Weight loss
    - 70% Pancreas cancer patients(1)
  - Malnutrition
    - 40% of Pancreas surgery patients (2)
  - Sarcopenia
    - 45% of Pancreatic surgery patients (3)

1. Gilliand et al, Nutritional and metabolic derangements in pancreas cancer, Nutrients, March 2017
2. La Torre et al, Malnutrition and pancreatic surgery, EJSO 2013
3. Mintziras et al, International Journal of surgery 2018.

# Physiological demands of pancreatic cancer treatment?



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# Common Issues in Pancreatic Cancer

- Complex diagnostic pathways
  - Jaundice
  - ERCP or fast track surgery
    - Post ERCP Pancreatitis/Perforation
  - Incidental pickup during other acute events
- Delayed diagnosis
- Advanced State of disease
- Complex diagnosis ( EUS Bx)
- Perioperative chemotherapy
- Psychological impact of a cancer diagnosis

# Why Prehabilitation – the evidence

Limited in pancreatic surgery

- Improved fitness
- Improved quality of life
- Reduced critical care stay
- Reduced complications
- Reduced length of stay
- Cost neutral

Improved chemotherapy response in gemcitabine based chemotherapy

improved vascular remodeling

Improved chemotherapy delivery

# Prehabilitation in patients undergoing pancreaticoduodenectomy: a randomized controlled trial

Fabio Ausania<sup>1</sup>, Paula Senra<sup>2</sup>, Reyes Meléndez<sup>2</sup>, Regina Caballeiro<sup>3</sup>, Rubén Ouviaña<sup>4</sup> and Enrique Casal-Núñez<sup>2</sup>

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40 patients prior to pancreaticoduodenectomy

Personalised prehabilitation with 5 supervised sessions + home based exercise

18 days assessment to surgery

Lower pancreatic leak ( 11% vs. 27%)

Lower DGE (6% vs. 41%)

Improved quality of life ( post operative ) questionnaires

# How do we use Prehabilitation ?

As individuals (and all health care professionals) we should **Capitalise on the teachable moment**

- Stop Smoking
- Empower patients
- Advise them to exercise
- Speak to relatives
- Education – let them know what to expect



# PREHAB in Liverpool

- Since 2017- 55k Macmillan grant/ Grant from Merseyside Cancer Alliance 2020

All Cancer patients listed for surgery across both main hospital sites Prehab clinic

- Online and remote exercise ( crucial in CV 19 pandemic )
- In person exercise
- “Budd” Support



# PREHAB Pancreas in Liverpool

Combined with pre-op clinic (For straight to surgery and neoadjuvant treatment patients)

- Physiotherapy assessment
- Dietician assessment – **PERT !**
- Exercise program
- Invited to group exercise classes
- On-going support ( 3/12 support post surgery – Important to be ready for adjuvant chemotherapy )
- “New” service in oncology unit – linking in with patients having palliative chemotherapy



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# PREHAB in Liverpool – the team ....

## MEET THE TEAM!

My role in the team ...

I'm a Band 6 Physio carrying out prehab assessments including within the pancreatic pre-operative assessment clinic. I also complete patient follow ups both pre and post operatively, exercise classes and a walking/wellbeing group.

My favourite thing about working in Prehab is ....

The variety of settings I am able to deliver a prehab service to my patients is my favourite part of the role.



**Chris**

## MEET THE TEAM!

My role in the team ...

To provide person-centered and evidence-based nutrition education, targeting nutritional problems and empowering patients to eat well throughout their cancer journey and beyond.

My favourite thing about working in Prehab is ....

It's so rewarding to see the motivation and determination of our patients to take control of their health, and the satisfaction of seeing these changes impact on health outcomes. We get to build great relationships with our patients and their relatives.



**Judith**

## MEET THE TEAM!

My role in the team ...

I am the team lead in the Prehab service and one of the physios. My role is to ensure the service runs smoothly and explore ways in which our service can improve and expand. I also join the team in both clinics and classes.

My favourite thing about working in Prehab is ....

Seeing how much Prehab has grown over the past 5 years and working with such a passionate group of AHP's. They really do demonstrate the value of the AHP role in peri-operative care.



**Claire**

## MEET THE TEAM!

My role in the team ...

I speak to patients about their emotional wellbeing and provide support through coping strategies to help with how they are feeling. I also speak to patients about how they are managing at home with their day to day activities.

My favourite thing about working in Prehab is ....

I enjoy getting to know patient and hearing about what is important to them. I love working as part of a multi-disciplinary team and learning from all my colleagues to improve the service to provide to patients.



**Rachel**



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# PREHAB Pancreas in Liverpool – Case study

- 65 Male, smoker, operable pancreatic cancer at MDT
- Frailty score 3 (high for age)
- Combined Pre op / PREHAB

Sit to stand 10 in 30 seconds

Exercise tolerance 200 yards with a stick

Poor quality of life

Deemed not fit for PPPD resection

# PREHAB Pancreas in Liverpool – Case study

Referred for chemotherapy and PREHAB

- 3 months Gemcitabine based chemotherapy ( GEMCAP)
  - Good engagement with Prehab
  - Stopped smoking
  - Frailty score is 1
  - Sit to stand 30 in 30 seconds
  - Walking 6 miles daily (Liverpool centre and back)

# PREHAB Pancreas in Liverpool – Case study

- Re imaged with CT and PET – No progression / stable disease
- PPPD resection
  - T3 N1 RO PDAC
  - Adjuvant FOLFIRINOX
  - 7 months post surgery – nearly finished chemotherapy !
- **“life changing team”**

# Any Questions ?



- Thankyou ....and stay safe ...and “keep on keeping on”