

Get Strong to Fight Childhood Cancer: An Exercise Intervention for Children and Adolescents Undergoing Anti-Cancer Treatment

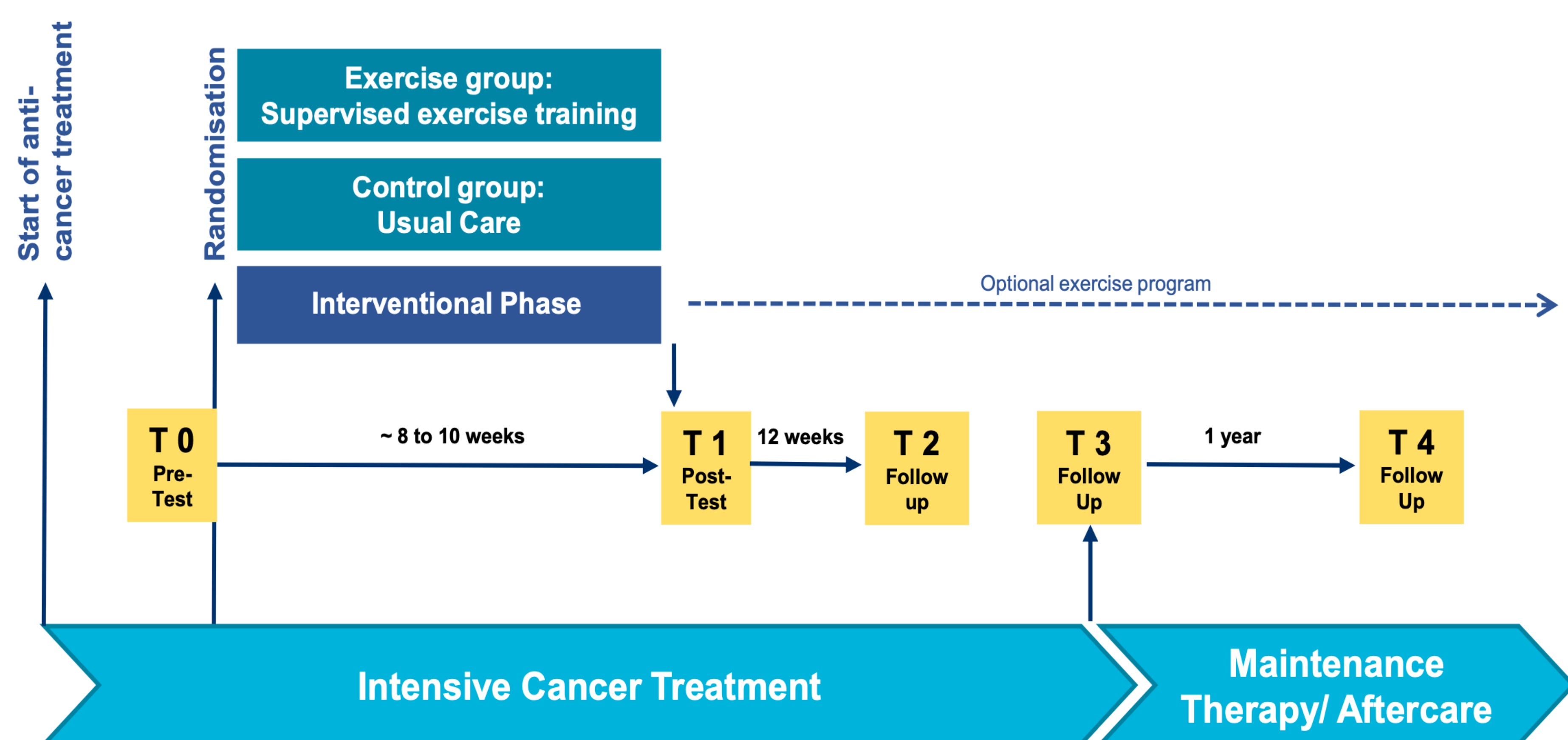
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on behalf of the FORTEe Consortium

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BACKGROUND

Cancer is the leading cause of death by non-communicable diseases in children in **Europe**. During cancer treatment, patients' **morbidity is increased** due to **physical inactivity** and cancer-related **fatigue**. **Precision-based exercise training programs** in children and adolescents attending the intensive phases of cancer treatment, is an increasingly promising therapy. However, **strong evidence for exercise efficiency is lacking** in paediatric oncology and thus precision exercise training is not part of standard care, and does not reach the majority of patients.

STUDY FLOW



METHODS

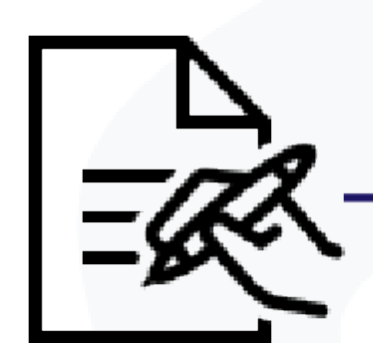
The **FORTEe project** is structured in seven work packages and intends to evaluate a **personalised and standardised exercise** intervention in **450 children**, adolescents and young adults undergoing cancer treatment in **nine centres** across Europe. The randomised, controlled FORTEe trial aims to generate **high evidence** for an **innovative, patient-centred** exercise treatment. Supervised exercise training intends to impact the efficiency of systems involved in the oxidative metabolism chain, including the skeletal muscle. The **tailored training** is focused also on the strength in order to counteract muscular atrophy. Within the project, **digital and innovative technologies** (a FORTEe app, an augmented reality program and an interactive digital training) will be developed and applied to make the exercise training more **attractive, age-adapted and inspirational**. FORTEe will stimulate **multidisciplinary research**, by involving paediatricians and exercise scientist to provide a more inclusive access to paediatric exercise oncology.

CONCLUSION

As a progress beyond the current state-of-the-art, FORTEe has the ambition to **implement paediatric exercise oncology as an evidence-based standard in clinical care** for all childhood cancer patients worldwide.

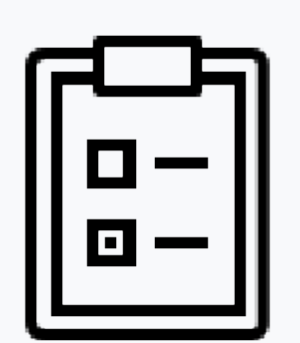
MEASUREMENTS

Informed consent Exercise interview



20min

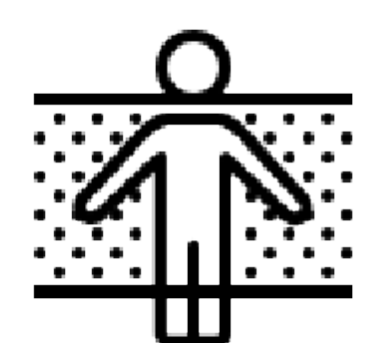
Questionnaires



60min

Fatigue
HRQoL
Mental Health
Nutrition
Resilience

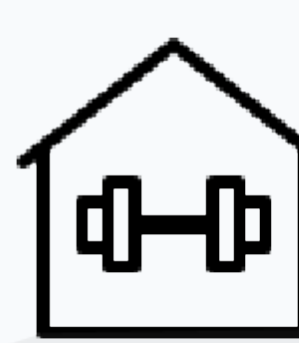
Anthropometrics



70min

Plicometry
Dexa
BIA

Exercise Testing



Day 1 & 2

105min

Day 1 (45min)

Day 2 (60min)

T0, Day 0
Familiarisation



6min
Walking Test (6MWT)



MOON Test
- Sit & Reach
- Arms Ball Shot
- Sit To Stand



Goniometry
Range of Motion
Ankle, Knee,
Hip Flexion



Quick Motor
Function Test



Timed Up and Down
Stairs Test (TUDS)



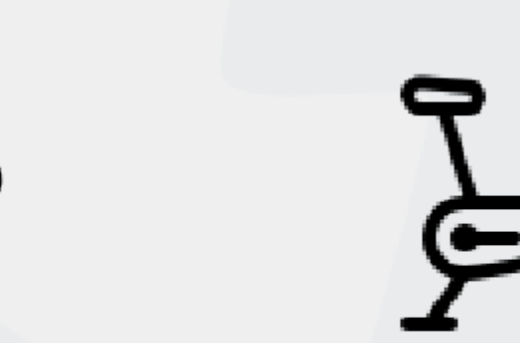
Leg Extension
Strength



Knee Flexion
Strength (CITEC)



Biceps Strength
(5RM dumbell)



Yo-Yo Test or
Bike Recline



Cardio-pulmonary
Exercise Test (CPET)