

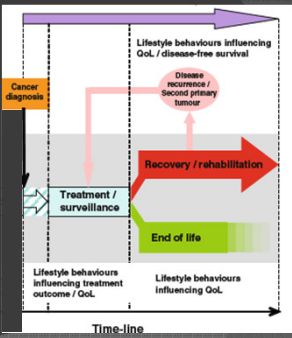
Exercise for Healthy Survivorship

Not all sweat and lycra!

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Survivorship

- Includes all phases from diagnosis
- Encompasses:
 - Living with cancer &/or
 - Living with treatment side effects
 - Physical
 - Psychological
 - Social
 - Behavioural



Adapted from Saxton & Daley. Exercise for Cancer Survivorship (2010), Springer, NY

Body systems affected by cancer treatment and exercise

<p>Treatment</p> <ul style="list-style-type: none"> ▪ Nervous system <ul style="list-style-type: none"> ▫ Functional changes ▫ Sensation change ▫ Neuropathies ▫ Cognitive function ▪ Musculoskeletal ▪ Cardiovascular ▪ Respiratory ▪ Metabolic ▪ Endocrine ▪ Immune ▪ Psychological health 	<p>Exercise</p> <ul style="list-style-type: none"> ▪ Nervous system <ul style="list-style-type: none"> ▫ Cognitive function ▪ Musculoskeletal ▪ Cardiovascular ▪ Respiratory ▪ Metabolic ▪ Endocrine ▪ Immune ▪ Psychological health
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When is exercise important?

- As soon as possible!
- Preferably during treatment
- Evidence that exercise can offset effects of cancer treatment
- Some suggestion exercise may also provide support to complete treatment
- If unable to exercise during treatment, then as soon as capable post

Benefits of exercise during treatment

- Exercise may:
 - Improve physical abilities
 - Improve balance, reduce falls risk
 - Maintain muscle and bone health
 - Reduce CHD risk
 - Reduce nausea, fatigue, anxiety and depression
 - Maintain independence
 - Improve self-esteem and quality of life
 - Assist weight control

Benefits of exercise post treatment

<p>Improves:</p> <ul style="list-style-type: none"> ○ Aerobic fitness ○ Muscle strength ○ Functional capacity ○ Shoulder function ○ Bone health ○ Quality of life ○ Body image ○ Self-esteem ❖ Evidence of decreased risk for recurrence ❖ Decreased risk of non cancer-related mortality 	<p>Decreases:</p> <ul style="list-style-type: none"> ○ Lymphedema risk ○ Lymphedema symptoms/flare ups ○ Fatigue ○ Pain ○ Depression ○ Anxiety
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Is exercise safe?

- Evidence of beneficial effects of exercise for survivors of:
 - Malignant recurrent glioma
 - Breast cancer
 - Prostate cancer
 - Lung cancer
 - Hodgkin's lymphoma
 - Colorectal cancer
 - Haematologic cancers
 - Endometrial cancer

Exercise Prescription

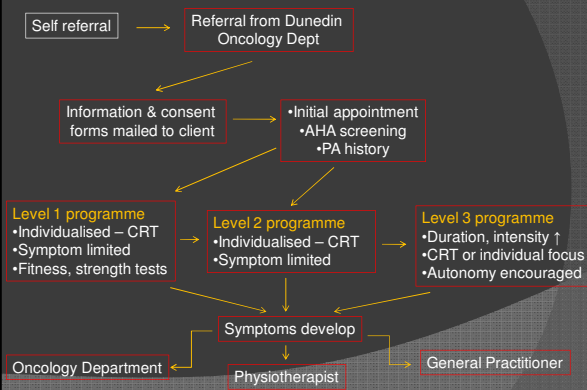
- Focus on HEALTH and movement
- Threshold appears to be at 9 MET h/wk
- Aim for 150-180 minutes of exercise/wk
- Break it down!!
- Begin with 60 minutes per week
- 10-15 minute sessions, twice a day, 4-5 days per week
- Brisk walking, cycling, swimming, gardening, zumba
- Weight training – a vital component!

Intensity?

- Low to moderate
- Can still talk but with a little huff and puff
- Heart beats a bit faster
- Make it enjoyable!



Beyond Pink – The Process



The ARTEMiS Study

- Moderate intensity circuit resistance training
- 45 mins/session, 2 x per week, 45 seconds on/15 sec off
- Resistance exercise intensity = 50-60% tested 1RM (tested every 5 weeks) for weight exercises. 4wks on/1wk recovery
- 20 week study



10 week results

- Weight – mean loss 110g (-0.1 to -4.8kg)
- Fitness (VO_2 ml/kg/min) – mean inc of 6.7% (-0.8 to 38.5%) – $p=0.04$
- Lower body strength – Quadriceps: mean inc of 40.5% (3-122%)
Hamstrings: 27.0% (0-173%)
- Upper body strength – 1RM bench press (ROM limited): mean inc 37% (0 - 102.7%)
- Strength measures significant at $p<0.01$

The Message!

- Exercise needs to become a standard component of cancer care



The Ultimate Challenge!

- Need trained personnel
- Thorough knowledge of exercise physiology and treatment effects = safe and effective exercise for patients and survivors
- Personalised approach initially
- Flexibility in programming required
- Need to expand exercise opportunities
- Funding needed for training and delivery



Questions?