

Oren Cheifetz

How to use exercise help? Research
and practical tips



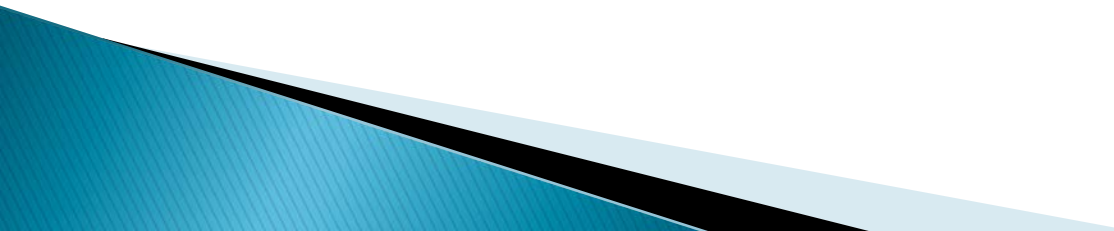


How can exercise help people with Lymphoma?

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Outline

- ▶ Common treatment side effect
 - ▶ Benefits of exercise
 - ▶ Exercise safety
 - ▶ Focus on Fatigue
 - ▶ Exercises you can do
 - ▶ Where to go from here?
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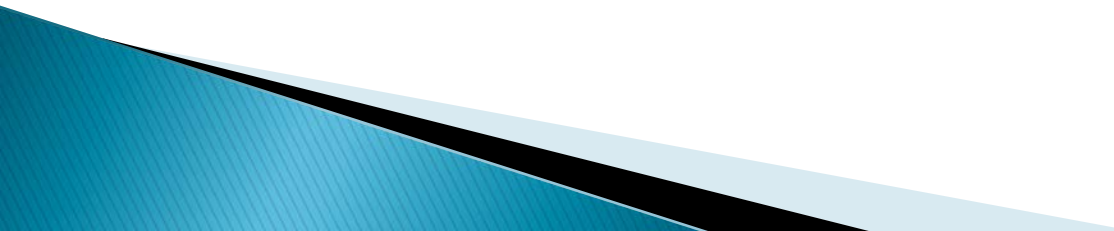
Common Cancer Treatments

- ▶ Chemotherapy
 - ▶ Radiation Therapy
 - ▶ Stem Cell Transplant
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Treatment Specific Side Effects

- ▶ Not all patients will have all the side effects
- ▶ Report side effects experienced to your doctor/nurse

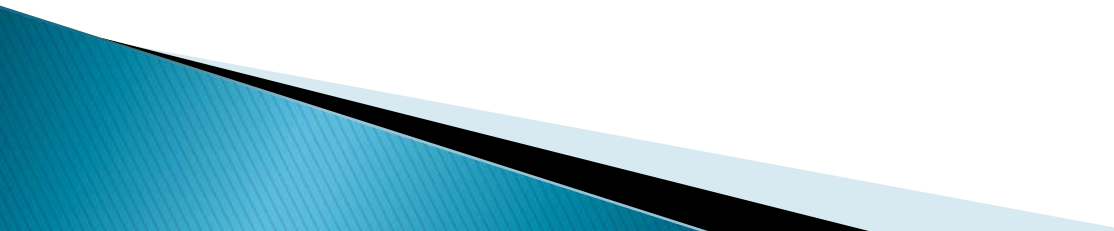
Chemotherapy Side Effects

- ▶ Mouth sores
 - ▶ Nausea and/or vomiting
 - ▶ Hair loss or thinning
 - ▶ Fatigue
 - ▶ Sleep disturbances
 - ▶ Low blood counts (red and/or white)
- 

Chemotherapy Side Effects

- ▶ Helpful strategies:
 - Report side effects to medical team
 - Medications to manage side effects
 - Ask for help from supports
 - Energy management.
 - Maintain nutrition intake, as able
 - Exercise (balance with other energy needs), meditation, other

Radiation Therapy Side Effects

- ▶ Fatigue
 - ▶ Inflamed, dry, itchy skin
 - ▶ Skin “sun burn”
 - ▶ Swelling and heaviness of areas radiated
 - ▶ Heart burn, difficulty swallowing
 - ▶ Tissue thickness changes
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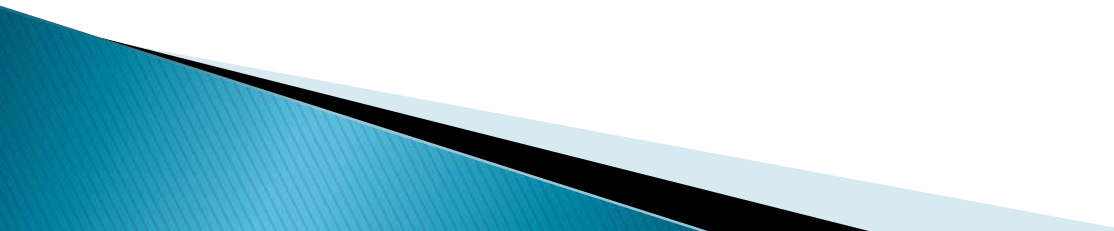
Radiation Therapy Side Effects

- ▶ Helpful strategies:
 - Wash with lukewarm water, and dry gently
 - Avoid soap, creams, perfume, deodorant and shaving on treated side
 - Avoid sun and hair dryers
 - Use loose fitting clothes, bra
 - Exercise and healthy diet
 - Consider the whole body

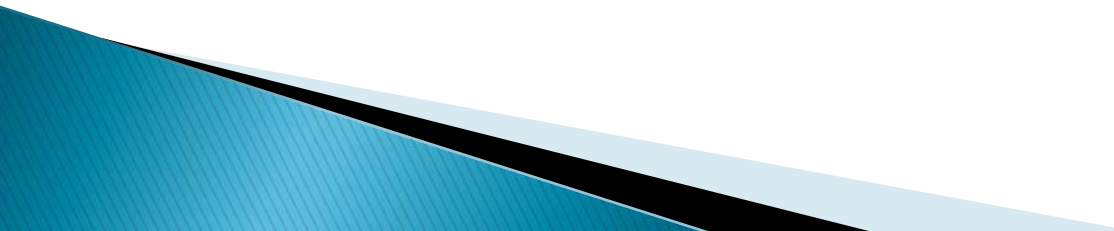
What is the Evidence?

Factors To Consider	Effects of Exercise	Effects of Chemotherapy
Tumor Size	No Effect	Shrink (and hopefully clear)
Affect metastases	No Effect	Shrink (and hopefully clear)
Pain	Reduce	Reduce
Nausea and Vomiting	Reduce	Increase
Quality of Life	Improve	Reduce initially, and hopefully improve with longer life
Blood Counts (red/white blood cells and platelets)	Improve	Initially reduce and hopefully improve over time
Bone mass density	Improve	Reduce
Cardiac function	Improve	Reduce
Prevent cancer	Reduces risk of developing some cancers	Increases risk of developing some cancers
Survival	Improve	Improve
Disease relapse	Prevent	Prevent
Fatigue	Reduce	Increase
General function	Improve	Initially reduce, then hopefully improve
General strength	Improve	Initially reduce and hopefully recover eventually
Mood status and sleep	Improve	Generally reduce

Recent Research (Vermaete, 2013)

- ▶ Approximately 34% of patients with lymphoma meet exercise guidelines before treatment (150 minutes of moderate exercise every week)
 - ▶ 6.5% meet exercise guidelines during treatment
 - ▶ 24% meet exercise guidelines after completing treatment
 - ▶ Those who present with lower functional abilities (6-minute walk test) report significant higher levels of fatigue
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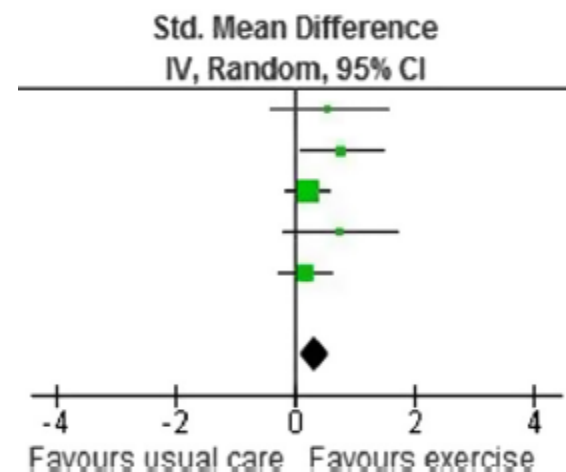
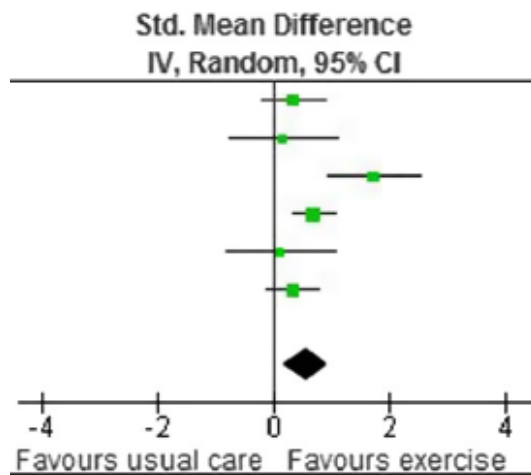
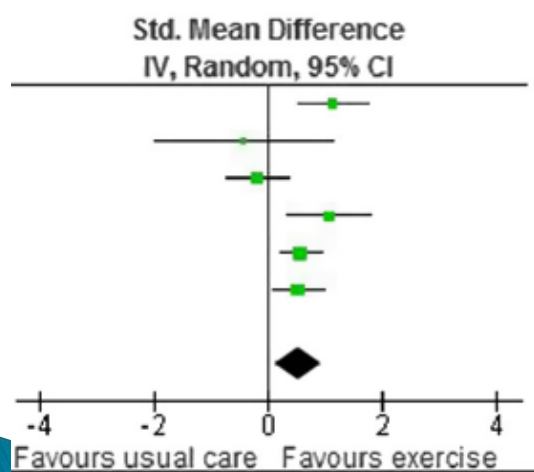
Recent Research (Vermaete, 2013)

- ▶ Several studies found that higher levels of activity are associated with improvements function, quality of life, and reduced depression and anxiety
 - ▶ Other significant improvements found include better cardiovascular fitness, lean body mass, and percent body fat
- 



Recent Research (Persoon et al, Inge et al 2013)

- ▶ Reviewed studies on patients who had stem cell transplants
- ▶ Most exercise programs started prior to transplant and lasted until discharge from hospital
- ▶ Significant benefits were found for those who exercised compared to those who did not





Effects of Exercise

Toxicity	Exercise Type	Benefits
Immune suppression	Moderate aerobic	<ul style="list-style-type: none">• No negative effect.• Faster blood count recovery in some studies.
Cardiovascular	Aerobic & Resistance	<ul style="list-style-type: none">• Improved circulation to the body.• Improved heart function.• Improved circulation to the heart.
Pulmonary	Aerobic	<ul style="list-style-type: none">• Improved lung efficiency.• Larger lung volumes.• Increase epinephrine release.

Portney & Watkins, 2007; Schneider et al 2003 (Exercise and Cancer Recovery); Campbell & McTiernan 2007

Effects of Exercise

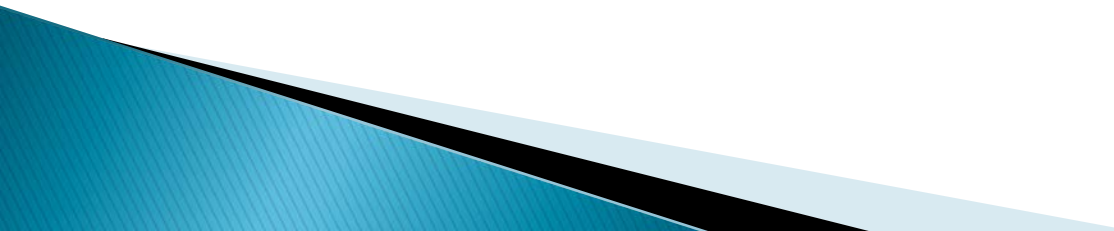
Toxicity	Exercise Type	Benefits
Gastrointestinal	Aerobic	<ul style="list-style-type: none">• Improved GI motility (movement).
Musculoskeletal	Aerobic & Resistance	<ul style="list-style-type: none">• Improved bone density (weight bearing exercises).• Reduce body fat and improve lean body mass.
Neuroendocrine	Aerobic & Resistance	<ul style="list-style-type: none">• Improve insulin sensitivity and increase glucose uptake by skeletal muscle.• Reduced systemic inflammation markers (C-reactive protein, Serum amyloid A, interleukin-6, and tumor necrosis factor-α). Highly related to BMI as well.

Portney & Watkins, 2007; Schneider et al 2003 (Exercise and Cancer Recovery); Campbell & McTiernan 2007

Effects of Exercise

Toxicity	Exercise Type	Benefits
Hepatic	?	?
Nephrotoxicity	?	?

General Benefits of Exercise During Therapy

- ▶ ↓ Nausea
 - ▶ ↓ Duration of neutropenia, thrombocytopenia
 - ▶ ↓ Fatigue
 - ▶ ↓ Emotional distress
 - ▶ ↑ Quality of life
 - ▶ ↑ Strength
 - ▶ ↑ Endurance
 - ▶ ↑ Walking tolerance
 - ▶ Improved sleep
- 



Example of Exercises used for Women with Breast Cancer

	Frequency (Times per week)	Intensity	Time	Type	Notes
Aerobic	2-7	60-85% heart rate maximum	10-30 minutes	Walking, swimming, cycling	Should incorporate exercises that client enjoys
Strength	2-3	60-70% of 1RM or 6-12 RM	2-4 sets of 6-12 repetitions	Weight machines, free weights and Therabands	
Relaxation	3-4		30 minutes	Alternating contraction/relaxation while listening to music.	
RM, repetition max					

Measuring Exercise Intensity

- ▶ Can use Rate of Perceived Exertion
 - “How hard are you working?”
 - Start light and build up as able
 - Several different scales can be found on the internet
 - Borg or RPE are common ones used and are well researched

AskTheTrainer.com

RPE Chart Rate of Perceived Exertion	
10	Max Effort Activity Feels almost impossible to keep going Completely out of breathe, unable to talk
9	Very Hard Activity Very difficult to maintain exercise intensity Can barely breath & speak a single word
7-8	Vigorous Activity On the verge of becoming uncomfortable Short of breath, can speak a sentence
4-6	Moderate Activity Feels like you can exercise for hours Breathing heavily, can hold short conversation
2-3	Light Activity Feels like you can maintain for hours Easy to breathe & carry a conversation
1	Very Light Activity Anything other than sleeping Watching TV, riding in a car, etc.



Exercise Safety

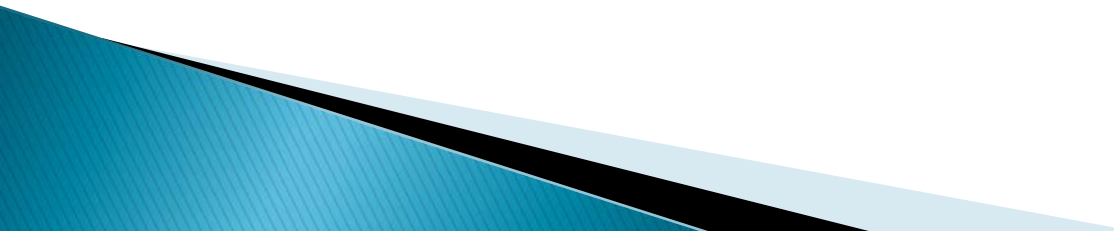
- ▶ Low red blood count (Hemoglobin less than 80)
- ▶ Risk of bleeding (platelets less than 50)
- ▶ Low white blood count (neutrophils 1.0 or less)
- ▶ fever of 38 or greater
- ▶ Severe nausea and vomiting



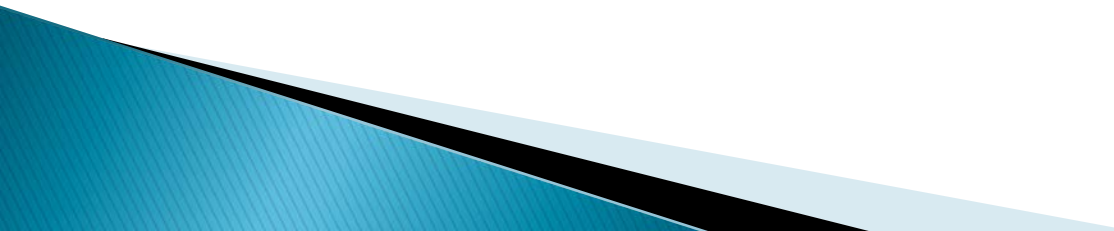
Do Not Exercise!

- ▶ Shortness of breath with minimal activity or at rest
- ▶ Unrelieved bone or any pain
- ▶ Extreme fatigue
- ▶ Severe muscle wasting
- ▶ Dizziness

Focus on Fatigue

- ▶ 40–100% of all cancer patients
 - Muscle wasting
 - Anorexia – malnutrition
 - Disuse Atrophy (lack of exercise/activity)
 - ▶ Sleep disturbance
 - ▶ Pain
 - ▶ Depression
 - ▶ Anemia
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Reducing Fatigue

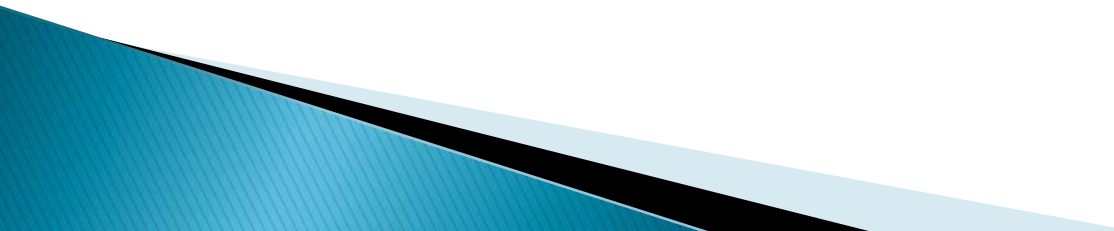
- ▶ Set a daily routine to encourage exercise when you are feeling their best
 - ▶ Use of pain and symptom management medications planned ahead of scheduled exercise
 - ▶ Balance activity and rest so that it does not interfere with night-time sleep
- 



Survivorship and Exercise

- ▶ Recurrence is probably the most common concern for all survivors: Is this a pain I need to work about, or a “normal” ache/pain from exercising?
- ▶ Need to take control when possible
- ▶ Get support
- ▶ Get information

Exercises You Can Do

- ▶ If you have specific problems, get help!
 - ▶ These are exercise guidelines
 - ▶ Start slow, and progress as able
 - ▶ Monitor for symptoms of low blood counts
-
- Lets get moving!
- 

Exercise Time!

Daily Exercise Program

- ▶ Warm up for 3-5 minutes to prepare yourself
- ▶ Walking, climbing the stairs, riding a bike, and bouncing gently while sitting on an exercise ball

Exercise Time!

- ▶ Aerobic Exercise
- ▶ Stretching
- ▶ Cool down

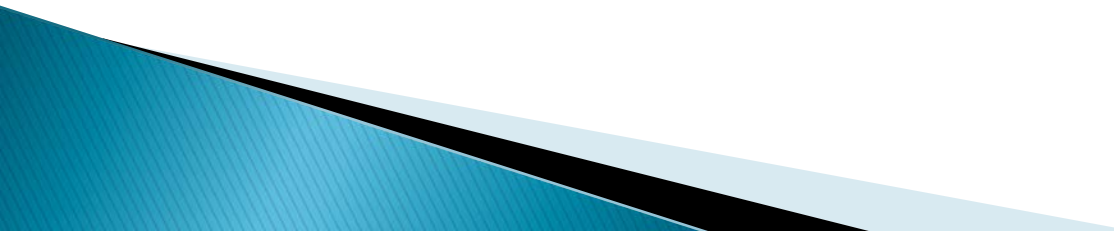


Staying Motivated

- ▶ Find exercise that is fun for you to do!
 - Dancing, bouncing, power walking, cycling, gym, or any thing else that you will enjoy (pillow fighting... gently)
- ▶ Find an exercise partner
- ▶ Set personal goals with prizes
- ▶ Consider the advantages and disadvantages of exercise...

Exercise		No Exercise	
Pro	Con	Pro	Con

Where to Go From Here?

- ▶ Exercise at home
 - ▶ Exercise in gym
 - ▶ Exercise in Physiotherapy clinic
 - ▶ CanWell supervised exercise program for people with cancer at the local YMCA): 905 667-1515
 - ▶ Wellwood
 - ▶ Wellspring
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Questions?

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