

Cancer Rehab and Exercise for the Patient with Multiple Myeloma

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Go Big or Go Home



- Estimated 95,874 people living with or in remission from multiple myeloma in the US
- Estimated 24,050 new cases 2014
- Average age at diagnosis 69 years old
- 5 year survival has increased to 47%



- Improved treatments lead to increase remission rates and extended survival
- Patients that are the healthiest will have more options of treatments available to them and will withstand and recover better from the treatments
- QOL



- 80% patients with MM present with bone involvement and anemia
- Pain and Fatigue
- Comorbidities as average age at diagnosis > 60

Downward Spiral of MM and Treatment



- Rest leads to
 - Decrease aerobic capacity
 - Decrease muscle strength
 - Increase effort to perform daily activities
 - Increase fatigue limiting ability to perform daily activities
 - Spiral continues down

Current Treatment / Best Practice



- Traditional Care Team:
 - Medical Oncology
 - Orthopedic Oncology
 - Radiation Oncology
- Paradigm shift
 - Rehab as integral team member from diagnosis thru survivorship

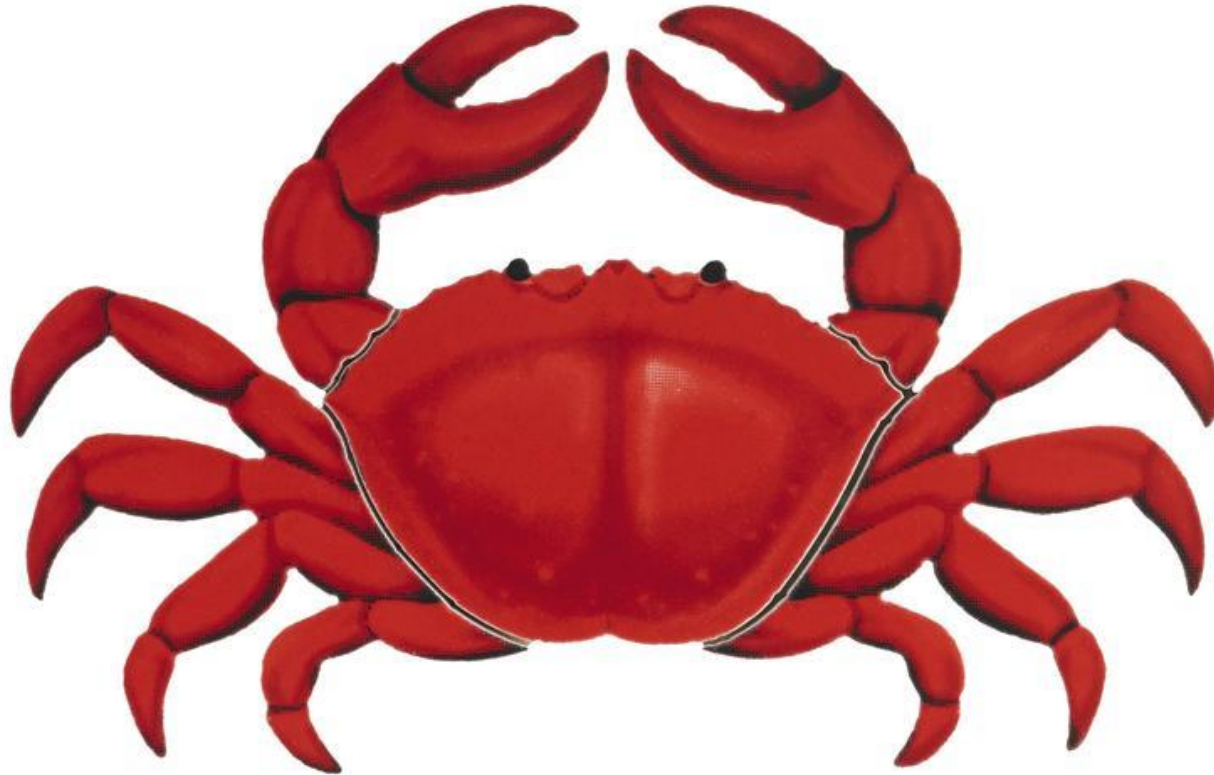
Cancer Rehab Team



- Physical Therapy
- Occupational Therapy
- Speech Therapy



Multiple Myeloma and CRAB





- **C** Hypercalcemia
- **R** Renal failure
- **A** Anemia
- **B** Bone lesions

Multiple Myeloma Factors Affecting Mobility



- Bone Disease
 - Vertebral compression fractures with or without spinal cord compression
 - Impending or pathologic fractures
 - Hypercalcemia
- Anemia
 - Fatigue
 - Weakness
 - Shortness of breath

Factors Affecting Mobility



- Peripheral Neuropathy
 - Decrease sensation/possible weakness
 - Impaired balance
 - Fall Risk
- GI Dysfunction
 - Nausea/Vomiting
 - Diarrhea
 - Constipation
 - Decrease appetite/weight loss

Factors Affecting Mobility



- Swelling
 - Possible DVT
 - LE heaviness and fullness
- Amyloid deposition
 - Organ shut down
- Pain

Cancer Rehab Evaluation



- Prescription to Therapy
- Insurance is checked
- Review of Medical Record
 - Imaging for bone survey
 - Labs
 - Oncologic history
 - Recent notes



- Patient tells their story
 - Establish relationship to gain the patients trust and confidence that you as the healthcare provider
 - Content expert
 - Care about the patient/family
 - Current level of activity
 - Diet/Hydration/Weight
 - Part of the treatment team
 - Won't hurt them
 - Establish the patients goals

Objective Exam



- Based on Medical History
- Observation/Posture
- Breathing patterns
- ROM
- Strength MMT/Functional Strength
- Sensation/Proprioception
- Gait/Stairs
- Balance/6 minute walk test/Berg
- Functional Mobility/Transfers



Assessment/Plan



- Establish functional need for skilled therapy services
- Establish functionally based goals
- Establish a Plan of Care for treatment
- Send it off many times to be signed by the referring provider as many times the patient has Medicare
- Plans of care have to be updated in our system every 10th visit or 90 days whichever sooner



- Based on musculoskeletal status, labs, pain level, patient goals and how the patient **looks and acts**



- Strength Training
 - Low load bed/chair exercise
 - Body weight/closed chain exercise
 - Resistance bands
 - Free weights
 - Strength machines

Aerobic Conditioning



- Aerobic conditioning
- Based on the 6 minute walk test
 - Rate of Perceived Exertion: RPE 0-10
 - Low intensity to maintain function or prevent deconditioning
 - 3-5 minutes of activity several times/day 7 d/wk
 - RPE 2-3
 - Moderate intensity to promote health
 - Goal >30 minutes/day 5 – 7 d/wk
 - RPE 3 - 5



- Instruct in hip hinging
- Don't bend and twist
- Proper sit to stand
- Log roll
- Maintain functional muscle length and joint mobility (LE's)

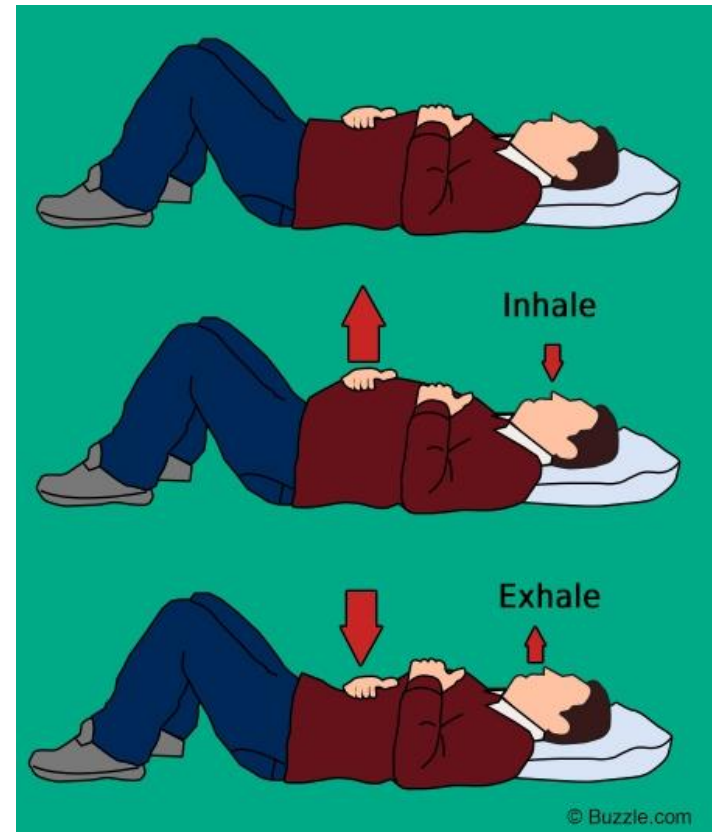


- Fall Risk
 - Cane/Walker/Wheelchair
- Gait mechanics
- Balance exercises
 - Eyes open/eyes closed (shower)

Diaphragmatic Breathing



- Proper breathing technique
- Pain Control





- Reacher/grabber
- Long handled shoe horn/sponge
- Raised toilet seat
- Leg assists
- Elastic shoe laces
- Compression stockings

Research on Multiple Myeloma and Exercise



- Not a great body of high grade evidence
- Cochrane Review 2014 Aerobic physical exercise for adult patients with haematological malignancies (Review)
- Started with 1518 publications, excluded 1477 as did not meet initial inclusion criteria
- Ultimately included 9 studies

Cochrane Review Authors Conclusions



- No difference in mortality between exercise and control group
- Physical exercise added to the standard of care can improve QOL, physical functioning, depression and fatigue
- Inconclusive evidence for anxiety, physical performance, serious adverse events and adverse events

Exercise: Myeloma Beacon quote (myelomabeacon.com)



- Wilson has found exercise to be the most important component of her recovery. “The number one health improvement factor is exercise,” she said. After her diagnosis, she took up Tai Chi, a form of relaxation and meditation she found therapeutic during her multiple myeloma and amyloidosis treatment.



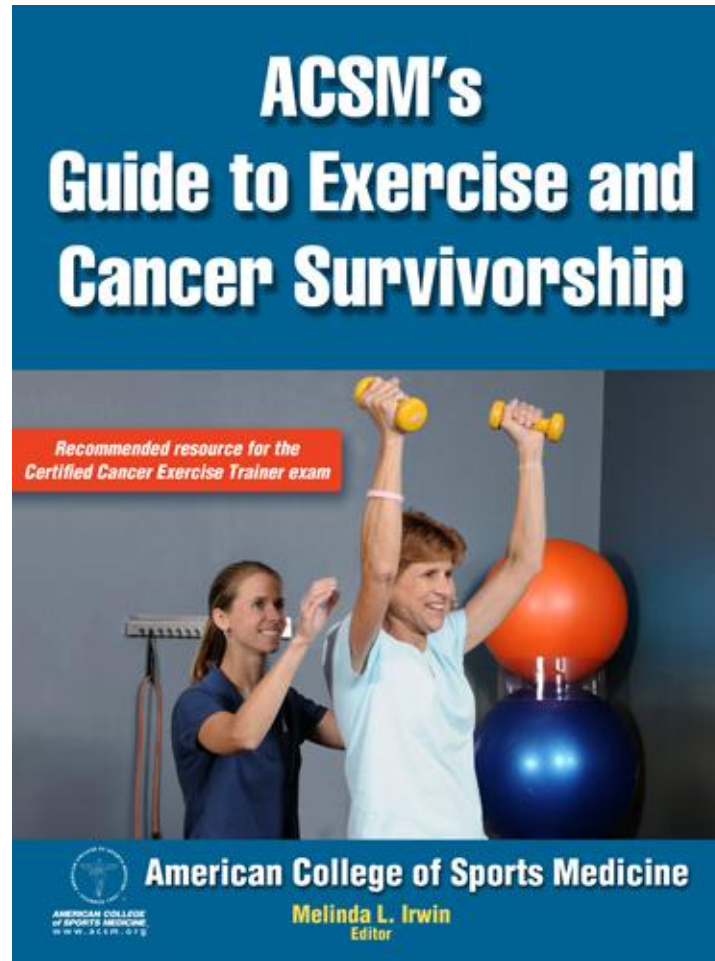
- Wilson also does yoga and recently completed a 5k run, both remarkable feats for someone who could not even sit Indian style on the floor when her legs and knees were swollen with edema. “I have to move, and the more I move, swim, and walk, the better I feel.”



“I’ve started to be my old self, more and more. As I age, I feel I have some time to make up, so I can really subtract those years [with myeloma and amyloidosis] from my chronological age!” she said, laughing. “Those don’t count, so we’re going back to 54!”



American College of Sports Medicine Cancer Exercise Trainer



AMCG Goals of Exercise Prescription for Patients with Cancer



- To regain and improve physical function, aerobic capacity strength and flexibility
- To improve body image and QOL
- To improve body composition
- To improve cardiorespiratory, endocrine, neurological, muscular, cognitive and psychosocial outcomes
- To reduce, attenuate and prevent long term and late effects of cancer treatments

- Aerobic Activity
 - 30 minutes/day; 5-7days/week of moderate activity
 - Can break into shorter sessions
- Strength training
 - 2-3 times/week; start low and slow
- Flexibility
- **Individualized program**
- **Follow precautions and guidelines**
- **Listen to your body**
- **During cancer treatment be as physically active as you can be**

Exercise Guidelines



Contraindication	Implications	What to look for	Comments
Hemoglobin level < 8.0 g/dL ¹	Anemia Reduced oxygen carrying capacity	Elevated heart rate, arrhythmias, rapid/difficulty breathing, extreme fatigue ² and high blood pressure	Avoid activities requiring high O ₂ transport (high intensity) ¹
Absolute neutrophil count ≤ 0.5 x 10 ⁹ /microliters ¹	Low white blood cell count Granulocytopenia High susceptibility to infection	If client knows values, they must relay them to exercise professional	Avoid activities increasing risk of bacterial infection ¹ Limit group sizes, restrict those who are contagious from attending class
Platelet count < 50 x 10 ⁹ /microliters ¹	Thrombocytopenia Easily bruised	Bruising, Swelling at site of venipunctures ²	Avoid activities increasing risk of bleeding ¹ – e.g. eccentric work and lifting heavy weights (because of increased tissue damage), high impact sports
Fever > 38 C (100.4 F) ¹	May indicate systemic infection and should be investigated ¹ May indicate pulmonary toxicity ²	Increased respiration, feeling cold, increased heart rate	Avoid high-intensity exercise ¹
Ataxia, dizziness, or peripheral sensory neuropathy ¹	At higher risk for falls If sudden onset, stop exercise immediately	Confusion, memory loss, seizures, loss of sensation, blurred vision, foot drop, muscle weakness, balance problems ²	Avoid activities requiring significant balance/coordination ¹ Work on balance while keeping safety a priority Keep exercise instructions clear and simple
Severe cachexia (loss of >35% of pre-morbid weight) ¹			Limit exercise to mild intensity, depending on degree of cachexia ¹
Dyspnea ¹	May indicate pulmonary toxicity ²	Investigate the cause	Exercise to tolerance ¹
Bone Pain ¹			Avoid activities that increase risk of fracture ¹ (e.g. contact sports, high impact exercises, spine flexion & end ROM)
Severe nausea ¹	Changes in intestinal mucosa, may lead to changes in intestinal absorption Malnutrition Low exercise capacity	Nausea, vomiting, loss of appetite, diarrhea, loss of sense of taste, dehydration ² Investigate cause	Exercise to tolerance ¹ Contact supportive care nurse
Extreme fatigue and/or muscle weakness ¹			Exercise to tolerance ¹

Must Haves



- Medical clearance
- Pre exercise screening
- Exercise monitoring/progression throughout the continuum of care

Pick one, both or none of the above



No pain, No Gain

Just Do It



Thank You



**BUILDING STRENGTH
AND SELF-CONFIDENCE
FOR CANCER SURVIVORS**