



SELF-CARE: EXERCISE, SUPPLEMENTS, DIET AND FATIGUE

Toni Dubeau, RN, MSN, NP-C

Dana Farber Cancer Institute

Bing Center for Waldenstrom's Macroglobulinemia

YOU CAN'T TALK ABOUT WM WITHOUT
TALKING ABOUT BEING TIRED.....



FATIGUE AND WM

- ***Anemia-related fatigue*** is a common presenting symptom and is the most common criteria to initiate treatment
 - Bone marrow infiltration by LPL cells
 - Hepcidin blocks the absorption of iron
 - Hemolysis caused by cold agglutinins
- Like pain, fatigue is a subjective symptom.



CANCER RELATED FATIGUE

- As defined by the NCCN:
 - “distressing, persistent, subjective sense of physical, emotional and/or cognitive tiredness or exhaustion related to cancer or cancer treatment that is not proportional to recent activity and that interferes with usual function”
 - Symptom most reported to interfere with ADL's
 - Lasts longer than treatment related side effects



FATIGUE WORK-UP: IT ISN'T ALWAYS WM...

- Anemia: Iron, B12, Folate deficiencies, GI bleeding.
- Thyroid function
- Sleep apnea
- Sleep hygiene
 - Sleep environment, avoid stimulants (alcohol, cigarettes, caffeine), avoid eating heavy meals, exercise, avoid napping, electronics
- Depression/anxiety
- Pain
- Low testosterone (men)
- Medications: beta-blockers, narcotics, anti-depressants and anti-anxiety, antihistamines



ELECTRONICS AND SLEEP: MORE ON SLEEP HYGIENE

- Electronics emit blue spectrum light, which disrupts the production of melatonin in your brain.
- Turn off your electronics with screens one hour before bedtime to allow your brain to generate your natural sleep hormones.



NCCN GUIDELINES: FATIGUE MANAGEMENT

- General strategies
 - Conserve energy
 - Pace yourself
 - ***Limit naps to < 1 hour***
- Physical Activity
 - Start and maintain an exercise program
- Pharmacologic
 - Stimulants, treat pain, treat depression, improve sleep hygiene, sleep medication



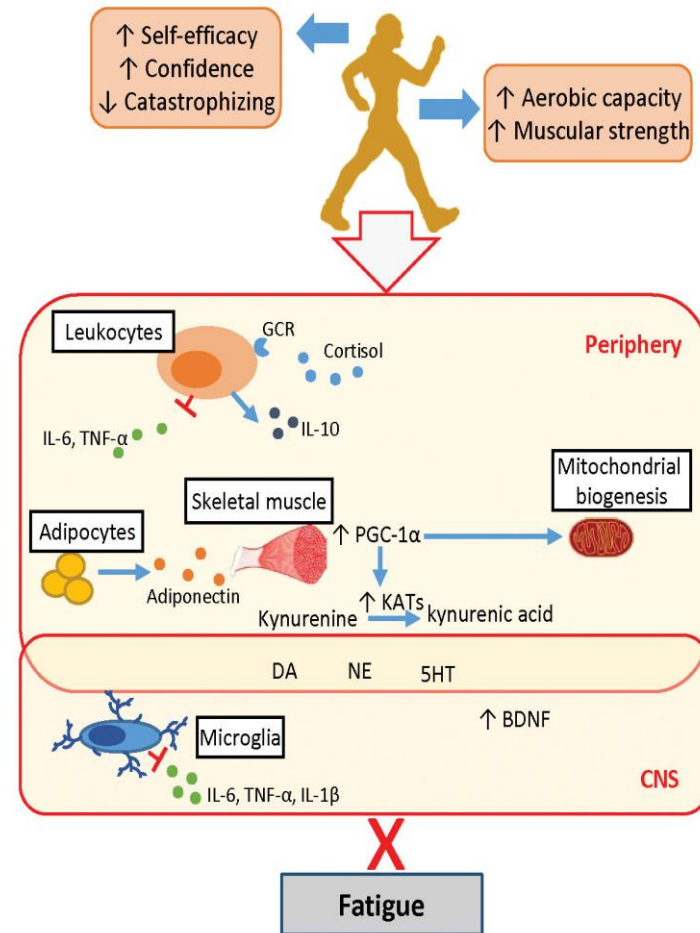
EXERCISE AND FATIGUE

- Exercise interventions are significantly associated with improvements in cancer related fatigue
- Exercise positively affects QOL, improves physical functioning and fatigue
- Four RCT's analyzing exercise interventions found positive effect on physical functioning and depression
- Greater sedentary time was associated with significantly lower physical functioning, greater fatigue and decreased QOL.



EXERCISE DECREASES INFLAMMATION

- Cancer related fatigue may be related to systemic inflammation
- Exercise reduces pro-inflammatory cytokines and increased anti-inflammatory cytokines



PHYSICAL ACTIVITY RECOMMENDATIONS

- At least 30 minutes of moderate intensity activity on at least 5 days/week **or** 75 minutes of vigorous-intensity aerobic physical activity(such as jogging or swimming laps) 3 days/week
- Muscle strengthening exercises 2 or more days/week
- Must take into consideration other health problems, substantial de-conditioning.
 - Referral to PT may be appropriate.



EXAMPLES OF PHYSICAL ACTIVITY

- Brisk walking
- Biking
- Yoga
- Go to the gym....or not
- Do what you like to do
- Work up to it. ***Start slow and build your endurance.***



YOGA DESERVES A SPECIAL MENTION

- Yoga combines stretching and strengthening with meditation
 - Yoga showed significant improvement in psychological health, distress and anxiety.
 - Yoga demonstrated reductions in fatigue, improved QOL, emotional and social function.
 - Yoga and strengthening exercises improved fatigue and QOL scores from baseline.

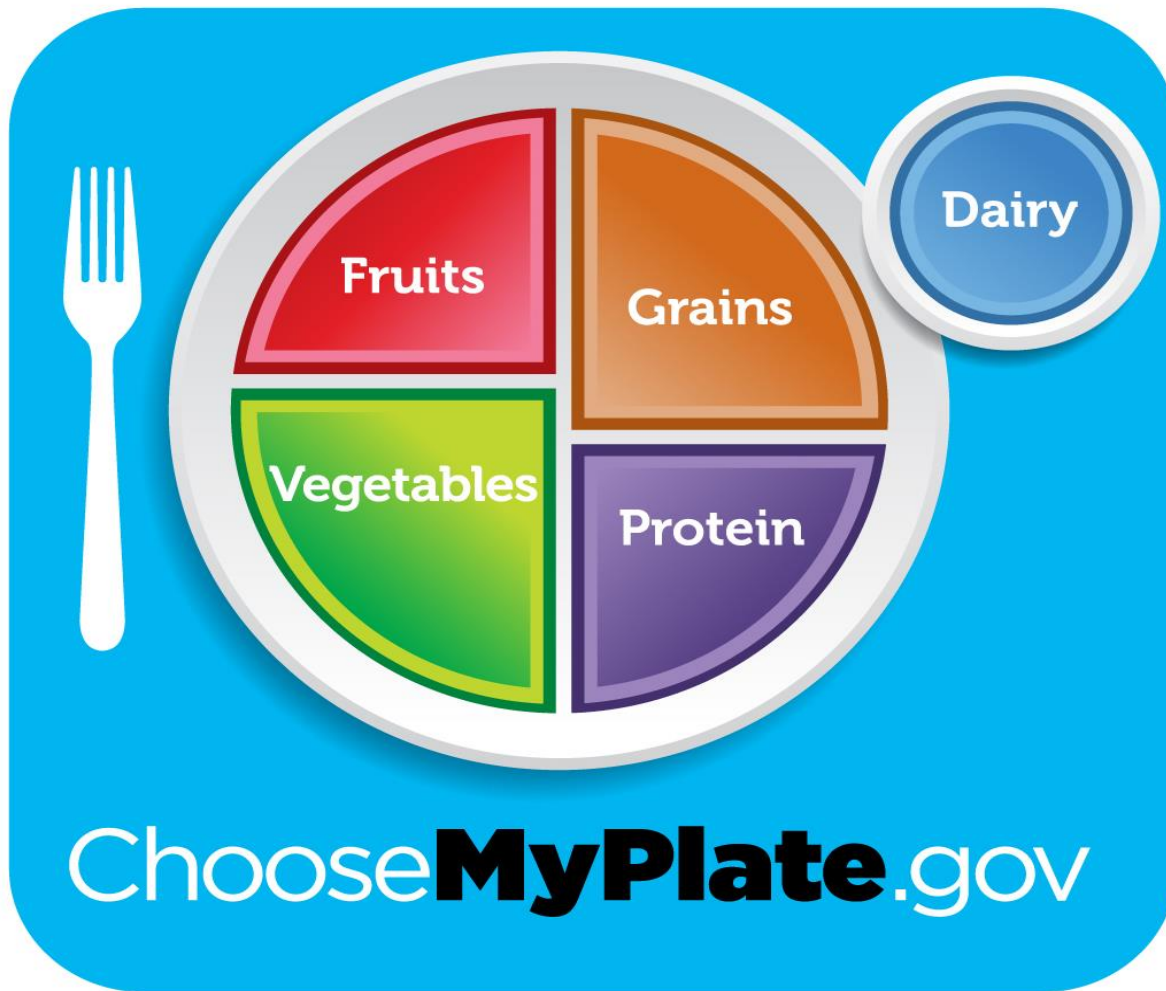


NUTRITION AND CANCER

- There is no special cancer diet
- ***Eat an overall healthy dietary pattern that emphasizes:*** a variety of fruits and vegetables,
- Whole grains,
- low-fat dairy products,
- skinless poultry and fish
- nuts and legumes
- Vegetable oils
- ***Limit*** saturated fat, *trans* fat, sodium, red meat, sweets and sugary beverages. If you choose to eat red meat, compare labels and select the leanest cuts available.
- Cook real food

from: www.heart.org

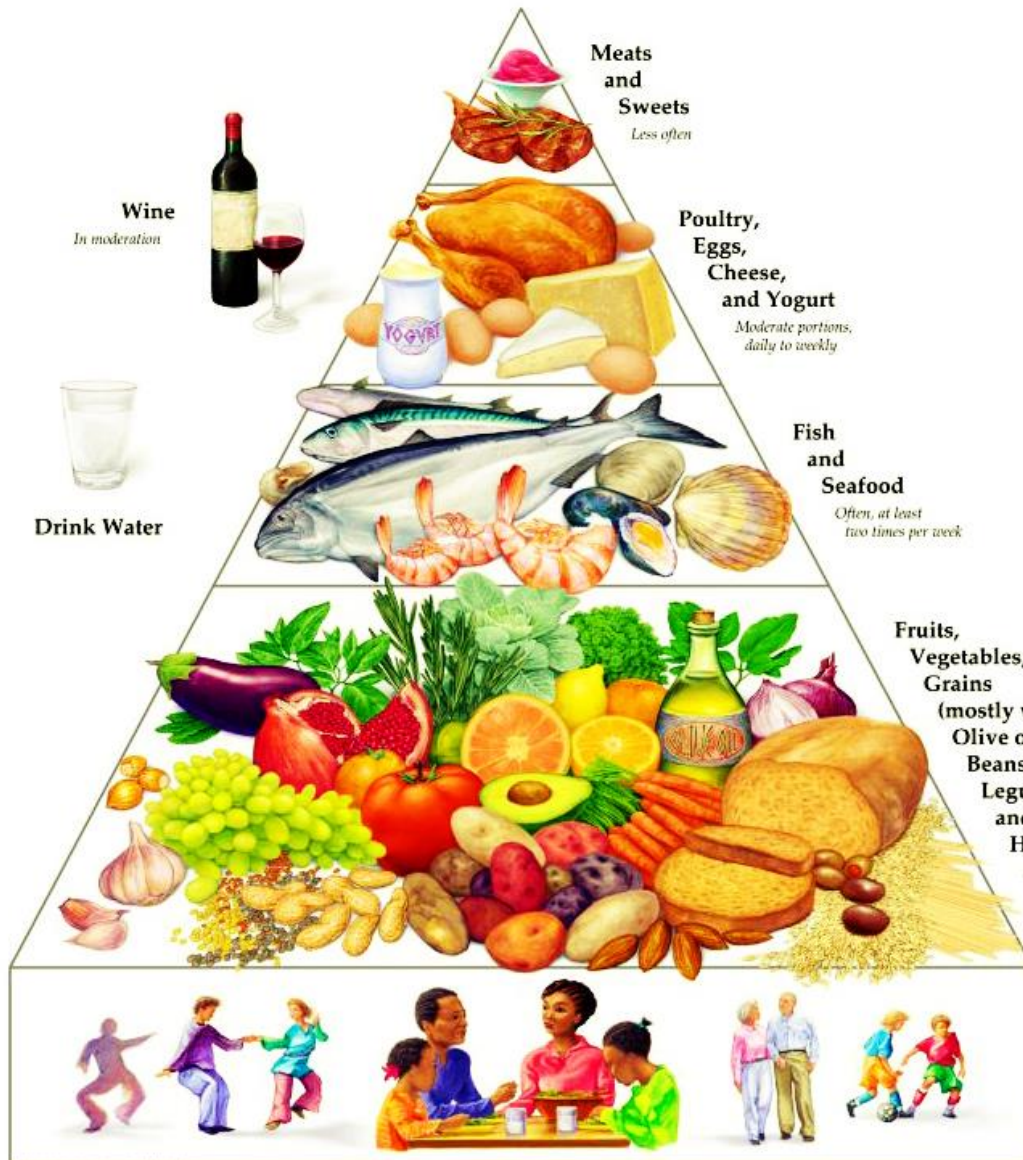




THE MEDITERRANEAN DIET

- Eat primarily plant-based foods, such as fruits and vegetables, whole grains, legumes and nuts
- Replace butter with healthy fats such as olive oil and canola oil
- Use herbs and spices instead of salt to flavor foods
- Limit red meat to no more than a few times a month
- Eat fish and poultry at least twice a week
- Enjoy meals with family and friends
- Drink red wine in moderation (optional)
- Get plenty of exercise





SUPPLEMENTS

- ***Vitamin D:*** promotes calcium absorption in the gut. Needed for bone growth and remodeling
 - Deficiency is common and correction may improve fatigue
 - Levels should be checked
 - Sources are fortified foods, sun exposure, supplements
 - Daily recommended supplement is 1,000-2,000 IU's/day
- ***Calcium:*** required for vascular contraction and vasodilation, muscle function, nerve transmission, intracellular signaling.
 - Milk, dairy and cheese are rich sources
 - Recommended intake for adults is 1,000 mg



SUPPLEMENTS FOR PERIPHERAL NEUROPATHY

- **Alpha lipoic acid:** 200 mg-500 mg twice/day
- **Acetyl L-Carnitine:** can take up to 2,000 mg/day
 - Combination pill of alpha lipoic acid and acetyl L-carnitine exists
- **Fish oils:** omega-3 fatty acids may have neuroprotective effects and can be used in place of amino acids
 - Fish oils should not be used with Ibrutinib



SUPPLEMENTS FOR MUSCLE CRAMPING

○ **MAGNESIUM**

- 250mg twice a day
- May cause diarrhea in larger doses

○ **POTASSIUM**

- Bananas, Oranges, Apple cider vinegar

○ **CALCIUM**

- TUMS, milk, cheese, ice cream

○ **TONIC WATER (*has Quinine in it*)**

- Drink one glass in evening and any other time cramping occurs



NUTRACEUTICAL AND HERBAL SUPPLEMENTS

- Use cautiously and don't use while on therapy without the permission of your oncologist
 - Herbal medicine use has many direct toxic effects and negative interactions with anti-cancer drugs.
 - Patients must consult with their oncologist before using over the counter supplements.



FINALLY, A WORD ON MEDITATION

- Meditation is a ***mind and body practice*** that has a long history of use for increasing calmness and physical relaxation, improving psychological balance, coping with illness, and enhancing overall health and well-being.
- Four elements of meditation:
 - Quiet location with as few distractions as possible
 - Specific, comfortable posture
 - Focus of attention
 - An open attitude (letting distractions come and go naturally without judging them).



MEDITATION WEBSITE/APPS

- 5 minute breathing meditation
 - <http://www.mindful.org/a-five-minute-breathing-meditation/>
- Phone apps for meditation anytime
 - Omvana
 - The mindfulness app
 - Headspace



TAKE HOME POINTS

- Determining the source of the fatigue is important before deciding on treatment
- Exercise is associated with reduced fatigue and improved QOL.
- Supplements should not be used without consulting your oncologist
- Meditation is a useful tool to reduce stress and improve fatigue



IN THANKS

Bing Center for Waldenström's Macroglobulinemia Clinical Team



**Jorge J. Castillo, Toni Dubeau,
Kirsten Meid, and Joshua Gustine**



As well as...

Steven Treon, Christopher Patterson,
Zachary Hunter, Lian Xu, Jiaji Chen, Xia
Liu, Robert Manning, Philip Brodsky,
Nicholas Tsakmaklis, Maria Demos &
Gloria Chan

