

How to Keep Your Immune System Healthy

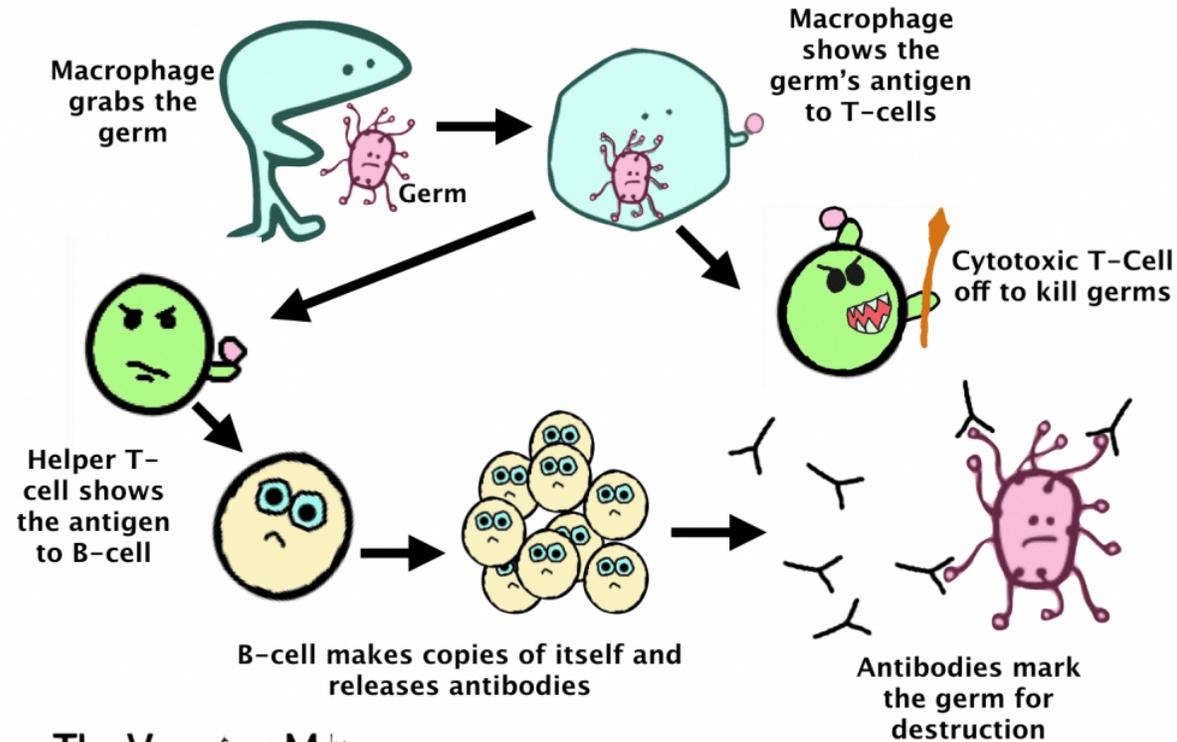


Basics for a Healthy Immune System

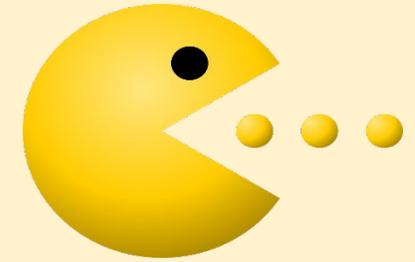


Our Immune System-simplified

Adaptive Immune System (in a nutshell)



Physical Activity



Moderate exercise has been linked to positive immune system response

- A temporary boost in the production of macrophages, the cells that attack bacteria.
- Regular, consistent exercise can lead to substantial benefits in immune system health over the long-term.

What is moderate intensity physical activity?

- The intensity of a specific activity can vary based on a person's fitness level. Some activities may be moderate intensity for an average person and vigorous intensity for others who are less fit.
- For a person with an average fitness level:
 - Moderate-intensity activities include brisk walking, dancing, and household chores, yard work
 - Vigorous-intensity activities include running, high impact aerobics and hiking

How to monitor your physical activity...Is it moderate?...

Without a Device:

OPTION 1: SELF-MONITORING Your BREATHING

Rule of thumb-Person doing moderate-intensity aerobic activity can talk, but not sing, during the activity. A person doing vigorous-intensity activity can't say more than a few words without pausing for a breath.

OPTION 2: PULSE CHECK:

Neck or Wrist -- to ensure accuracy and safety work with a physical therapist, exercise specialist (gym/fitness center) or health practitioner.

How to monitor your physical activity...Is it moderate?...(continued)

With a Device:

OPTIONS: Smartwatches, fitness trackers, Smartphones, tablet, iPad & phone apps
(Preloaded Options or FREE App)

 **Important:** While these apps do work, they shouldn't be treated as an alternative to a visit to a medical professional and shouldn't be used when making serious decisions about diet, lifestyle, or medication.

Examples of Free/Low Cost Exercise Resources (Continued):

- Rent Exercise Video or CD
- Consignment/Goodwill/Salvation Army stores—videos, CDs, cassette tapes
- Local Recreation Departments/Adult Centers: programs and classes, in-person and/or virtual
- On Demand, U-tube



FIRST check in with your Healthcare Provider

SLEEP



Did you know...?

- 70% of older adults say they have trouble sleeping
- **Typical complaints include:**
 - Nonrestorative (not feeling refreshed/rested),
 - Difficulty Initiating sleep, and
 - Difficulty Resuming or Maintaining sleep.

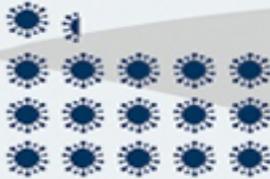
How is this important to my immune system?

SLEEP

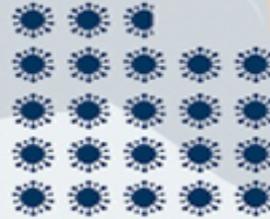
Sleep Protects Against The Common Cold

Chances of Catching a Cold When Exposed to the Virus (%)

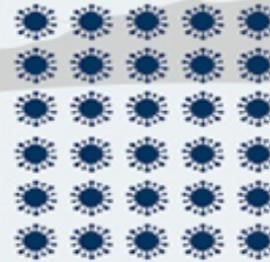
17.2%



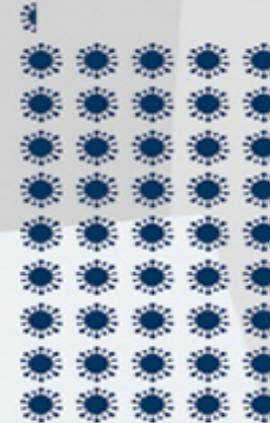
22.7%



30%



45.2%

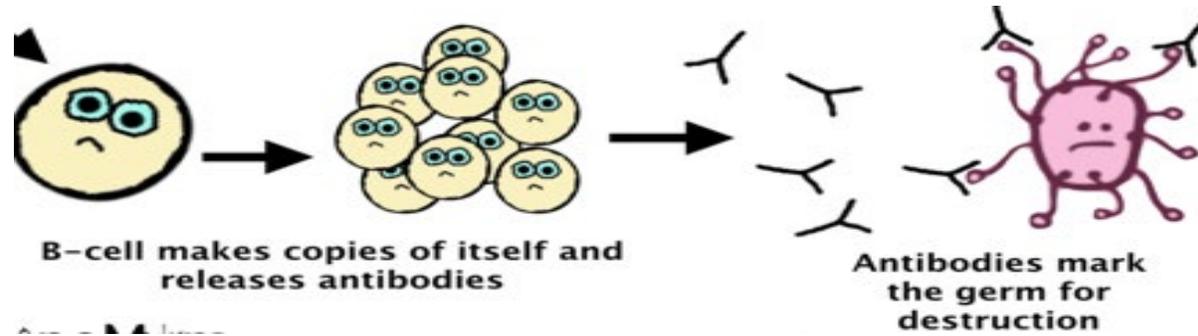


SLEEP DURATION

Source: Prather et al, 2015

UCSF

Sleep Loss and Our Immune System



STUDY:

Restricted sleep to 4 hours per night x 6 days, followed by 12 hours of sleep per night x 7 days, →

>50% decrease in production of antibodies to **influenza vaccination**, in comparison with persons who had regular sleep hours.

Sleep loss → Higher Risk of Infection.

Healthy Sleep Tips

- What can do we do about it?
 - Talk with your healthcare provider
 - Behavior changes we can make day-to day
 - Mind-Body Therapies and Techniques
 - General and Dietary considerations

BEHAVIOR

- **Encourage a Consistent Bedtime & Wake Time**
 - **Stick to a sleep schedule**
 - **Avoid naps** during the day
 - **Turn off electronics**- avoid blue light-emitting screens (30 minutes-1 hour before bedtime)
 - *Sources of blue light: Sunlight, fluorescent & LED lights, Flat-Screen TVs,*

CHANGES...

- **Signal Your Brain You are Preparing for Sleep**

Establish Routines

- **Dim Lights** 1 Hour Before Bedtime
- **Meditate**, Guided Imagery, Prayer, Listen to soothing music
- **Hot Bath/Shower**
- **Gentle Stretching**

• Mind-body Interventions

- **Acupuncture**-A therapy shown to improve sleep quality and modulate stress and positive effects on immune response.
 - Typically, a series of 8-12 weekly treatments is required to produce a durable change in sleep patterns.
- **Tai Chi**-A mindful-movement meditation that significantly improves sleep quality
- **Mindfulness meditation**-improves sleep quality, reduces stress, mood disturbances and fatigue

• Dietary & Other Considerations

- **Items** that claim to support healthy sleep include:
- **Melatonin:** Levels Increase in evening as cortisol levels decrease. Lower levels with age.
 - Possible interaction w/ anticoagulants, certain herbs, anticonvulsants, blood pressure drugs, Diabetes Medication.*
- **Magnesium Supplement:** Calming effect on nervous system & muscles.
 - Do not use with Furosemide (Lasix), Mg/K+ sparing diuretics, renal failure, Bipolar w/ lithium meds, Luvox, Seizure meds*
- **Lavender Oil:** Aromatherapy potentially effective for sleep quality

Supports that minimize Immune Systems Workload

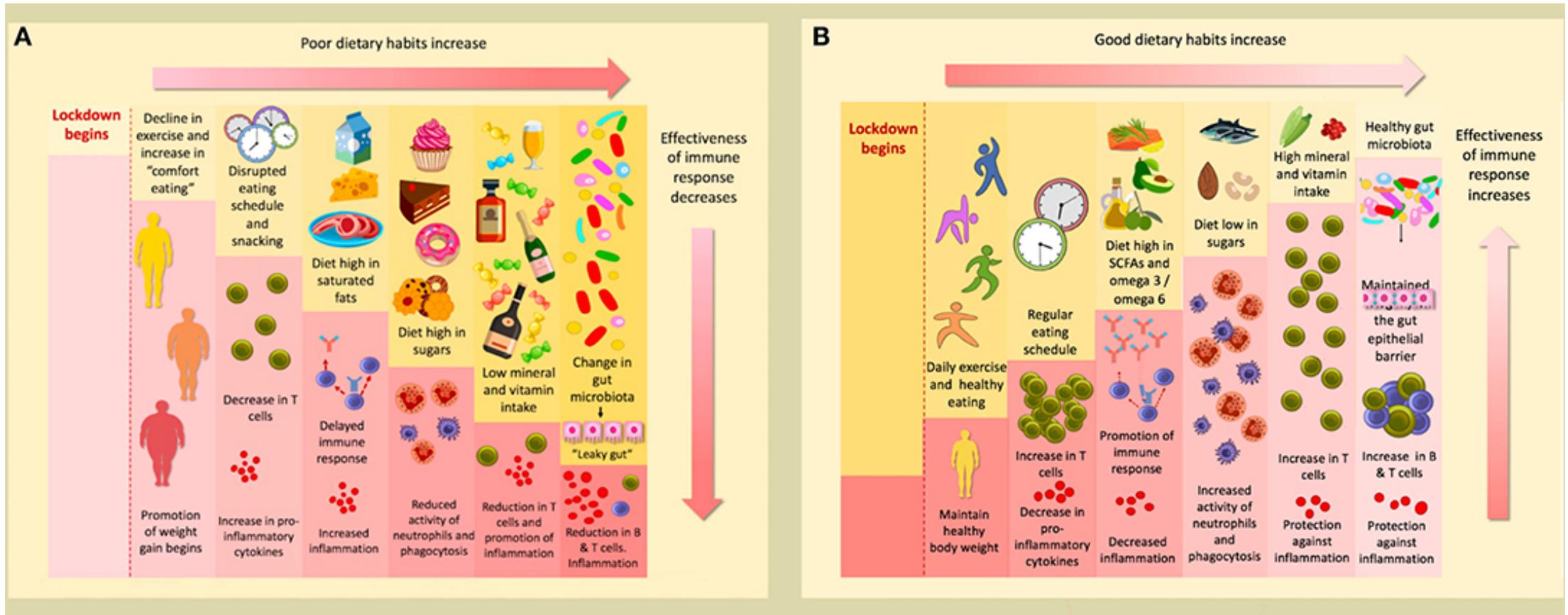


- Following health official's advice and guidance (general)
- Speaking with your doctor or other trusted health advisor for advice and recommendations (personal)
- Prioritizing what's needed & what's doable for you   
- Follow up and track your progress 

Let's Talk NUTRITION



How to Keep Your Immune System Healthy



Make Healthy Shifts to Empower Toddlers to Eat Nutrient-Dense Foods in Dietary Patterns



Cereal with Added Sugars

Cereal with Minimal Added Sugars



Fruit Products with Added Sugars

Fruit (e.g., canned in 100% juice)



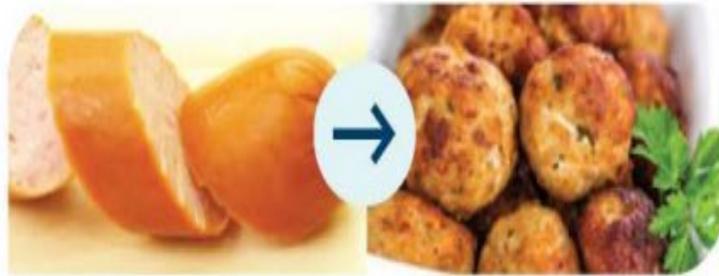
Fried Vegetables

Roasted Vegetables



High-sodium Snacks

Vegetables



High-sodium Meats

Ground Lean Meats



Beverages with Added Sugars

Unsweetened Beverages

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Vitamin and Minerals

- **Vitamin C** –T cells and phagocytes, in the immune system, can accumulate vitamin C. As more immune cells take in vitamin C → increase in movement to an infection site and an increase in lymphocytes and other immune cells.

Food sources: kiwi, guava, papaya, lychee, citrus fruit (oranges, grapefruit), black currants, red/green peppers, broccoli, tomato, strawberries, dark leafy greens.

- **Vitamin D** - It's important for your immune system. You get most of your vitamin D from sunlight on your skin. But you can also get it from food. If you're homebound, sick, or older, you might not get enough vitamin D. Talk to your doctor if you think your levels are low.

Food sources: Rainbow trout Salmon (canned sockeye, wild coho), mackerel, herring, sardines, portabella mushrooms, Tuna (canned), Yogurt (added vitamin D), Milk (fortified with vitamin D).

- **Zinc** - Some studies have found that zinc lozenges may reduce the duration of a cold, perhaps by a day or so, and may reduce the number of upper respiratory infections in children. Zinc helps fight infection and heal wounds. However, if you already have enough zinc from your diet, it is not clear that getting even more - from supplements -has a benefit.

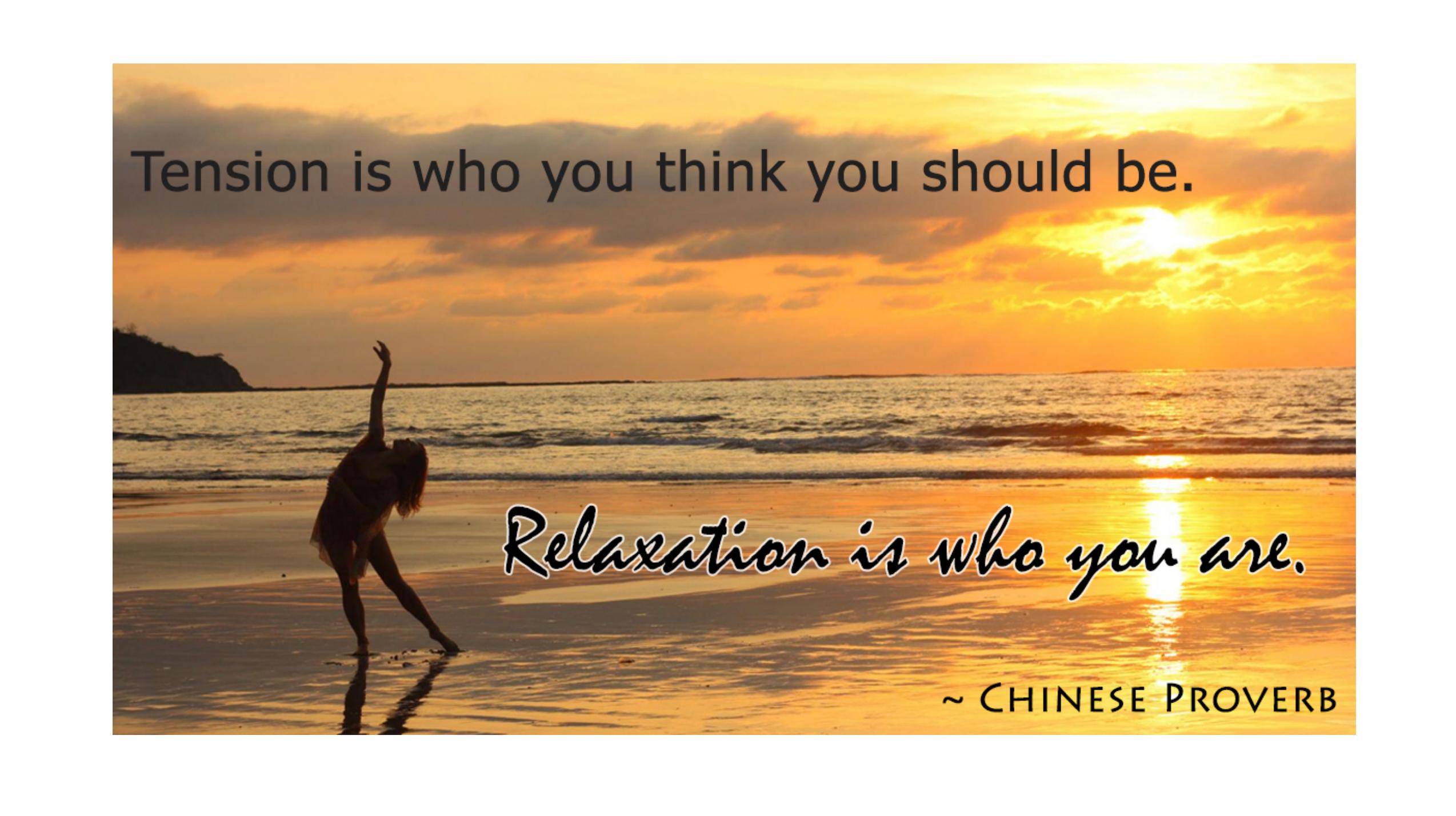
Food Sources: Oysters, wheat germ, beef, pork, baked beans, liver, turkey, black-eyed peas, crab, lentils, peas, Shell fish, cashews, soy nuts, tempeh, sunflower seeds, ricotta, Swiss and gouda cheese.

Spices

- **Garlic** - While garlic may have some benefit for preventing the common cold, there is no good evidence to support using it for COVID-19.
- **Turmeric**-Curcumin and other chemicals in turmeric might decrease swelling (inflammation). Because of this, turmeric might be beneficial for treating conditions that involve inflammation. Some experts warn that turmeric may interfere with the body's response against COVID-19. There is no strong data to support this warning. But there is also no good data to support using turmeric for COVID-19. Follow healthy lifestyle choices and proven prevention methods instead.

SUMMARY

- Whole food is typically the safest and cheapest means of getting the nutrients we need to support our immune system and overall health.
- Choose whole grains, vegetables, fruits, lean proteins and heart healthy fats. While lowering your sugar and fat intake.
- Quality and duration of Sleep matters.
- Consult a trusted health practitioner for advice when starting an physical activity/exercise program.

A person is captured in a yoga pose on a beach at sunset. The person is in a standing forward bend, with one leg raised and bent, and their arms reaching upwards. The background features a vast ocean with gentle waves, a bright sun low on the horizon, and a sky filled with soft, golden clouds. The overall atmosphere is peaceful and serene.

Tension is who you think you should be.

Relaxation is who you are.

~ CHINESE PROVERB