EXERCISE WHEN SICK?

SHOULD YOU SWEAT IT OUT? OR REST AND RECOVER?

Everybody gets sick. But it's tough to know what to do about it.
Is exercise, or rest, the best medicine? Let's find out.

IMMUNITY

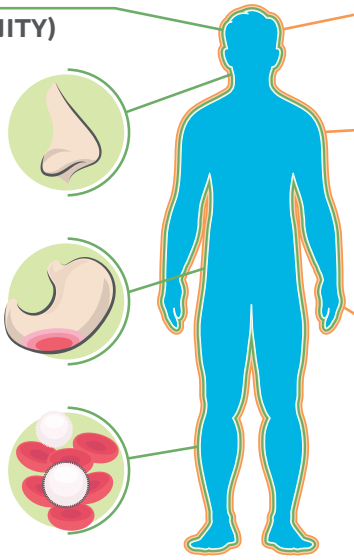
When body is faced with foreign attack, our immune system works hard to defend us.

INNATE IMMUNITY
(NATURAL IMMUNITY)

Physical/structural barriers (like the mucous lining in nasal passages)

Chemical barriers (like our stomach acids)

Protective cells (like our natural killer 'NK' cells, white blood cells that can destroy harmful invaders)



ADAPTIVE IMMUNITY
(ACQUIRED IMMUNITY)

Specialized white blood cells have a kind of memory; they "recognize" a specific pathogen and mobilize more effectively to fight it.

Acquired immune response is the basis for vaccination. Subject your body to a tiny dose of a pathogen, and it will know what to do when confronted with a bigger dose.

UPPER RESPIRATORY TRACT INFECTIONS

Every day, bacteria, viruses, fungi, and parasites come at us. It's a germ jungle out there. And the most common invaders cause:

COLDS

MIDDLE EAR INFECTIONS

SINUSITIS

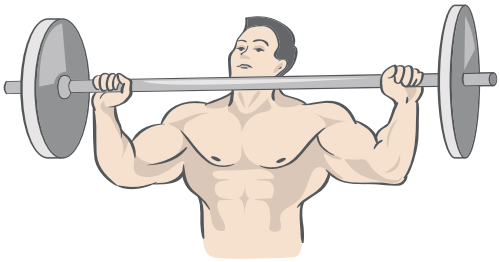
INFLUENZA

COUGHS

TONSILLITIS

THROAT INFECTIONS

EXERCISE SUGGESTIONS FOR WHEN YOU'RE SICK



ACTIVITIES TO CONSIDER WHEN YOU'RE SICK

- Walking
- Jogging
- Swimming
- Biking
- Qi gong
- T'ai chi
- Yoga

ACTIVITIES TO AVOID WHEN YOU'RE SICK

- Heavy strength training
- Endurance training
- High intensity interval training
- Sprinting or power activities
- Team sports
- Exercise in extreme temperatures

HOW EXERCISE AFFECTS THE IMMUNE SYSTEM

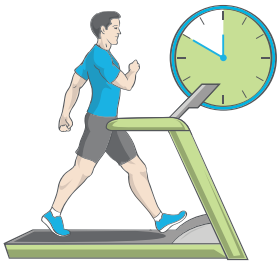
ONE-TIME EXERCISES

BRIEF VIGOROUS

doesn't cause immune-suppressing effect

MODERATE INTENSITY EXERCISE SESSION

can boost immunity



PROLONGED VIGOROUS EXERCISE SESSION

depresses the adaptive immune system

CHRONIC EXERCISES

CHRONIC RESISTANCE TRAINING

stimulates

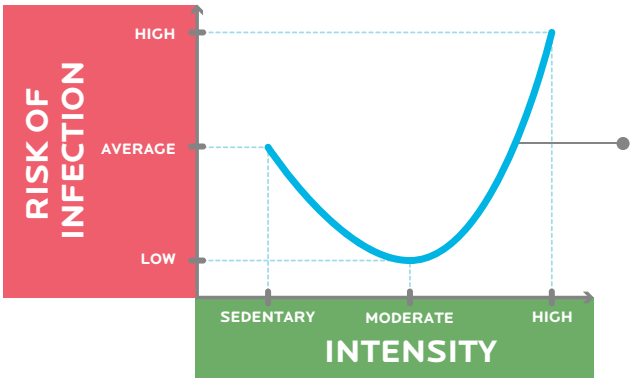
INNATE IMMUNITY

CHRONIC MODERATE EXERCISE

strengthens

ADAPTIVE IMMUNITY

J-SHAPE CURVE THEORY

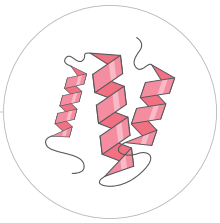


Means that being sedentary or exercising too much can lower immunity, while something in the middle can improve immunity.

OTHER FACTORS AFFECTING IMMUNITY

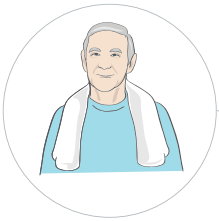
STRESS

It's a big factor that affects the immune system. If you're sick and fighting an infection, your immune system will already be stressed. And if you add the stress of prolonged vigorous exercise, you might, quite simply, overload yourself.



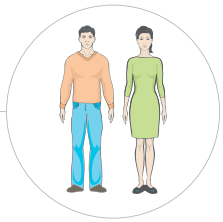
IL-6

IL-6 (a compound released after prolonged intensive exercise) may be produced in abnormal ways in some people, leading to fatigue, flu-like symptoms, and depressed mood.



AGE

Our innate immune response can break down as we get older. But staying physically active and eating a nutritious diet can offset many of these changes.

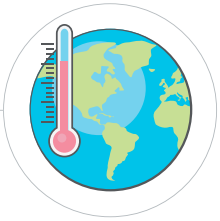


GENDER

Estrogens generally enhance immunity while androgens can suppress it. And this may explain why women tend to do better with colds than men.

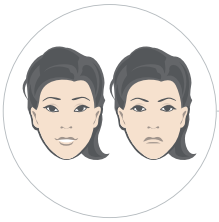
SLEEP

Poor quality sleep and/or prolonged sleep deprivation jeopardizes immune function.



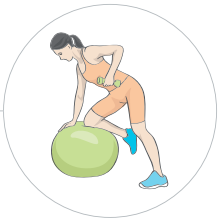
CLIMATE

Exercising in a hot or cold environment doesn't appear to be that much more stressful than exercising in a climate controlled environment.



MOOD

Immune alterations affect mood and inflammation.



TRAINING AGE

A higher level of fitness is protective as it may limit the stress response to exercise.

TEXT BOOK GUIDELINES FOR EXERCISING WHILE SICK

DAY 1 OF ILLNESS:

SYMPTOMS

- Sore throat
- Coughing
- Runny nose
- Congested nose

EXERCISE

Only low intensity

SYMPTOMS

- Muscle/joint pain
- Headache
- Fever
- Malaise
- Diarrhea
- Vomiting

EXERCISE

No exercise

DAY 2 OF ILLNESS:

SYMPTOMS

- No fever
- No malaise and
- No worsening of "above the neck" symptoms

EXERCISE

Light exercise, by yourself, indoors

30-45 minutes

PULSE <150 bpm

SYMPTOMS

- Body temp >37.5-38 C
- Increased coughing
- Diarrhea
- Vomiting

EXERCISE

No exercise

DAY 3 OF ILLNESS:

SYMPTOMS

- No fever
- No malaise and
- No worsening of initial symptoms

EXERCISE

Moderate exercise by yourself, indoors

45-60 minutes

PULSE <150 bpm

SYMPTOMS

- Fever and symptoms still present

EXERCISE

Consult doctor

DAY 4 OF ILLNESS:

SYMPTOMS

- Fever and other symptoms improved

EXERCISE

Wait 24 hours, then return to exercise

SYMPTOMS

- No symptom relief
- New symptoms appear

EXERCISE

Consult doctor

Some illnesses can indicate serious infections. So if you aren't feeling better and recovering, see your doctor. Ease back into exercise in proportion to the length of your sickness. If you were sick for 3 days, take 3 days to ease back in.

TO EXERCISE OR NOT? WHAT THE PROS RECOMMEND:

Unless you're feeling like a train wreck, I always recommend low intensity, low heart rate "cardio" during the first few days of sickness. Generally I prefer 20-30 minute walks done either outside (in the sunshine) or on a home treadmill (if you can't get outside).
If you keep the intensity low and the heart rate down you'll end up feeling better during the activity. And you'll likely stimulate your immune system and speed up your recovery too. But even if you don't speed up your recovery, you'll feel better for having moved.

DR. JOHN BERARDI

Let your symptoms be your guide. If you're up for a walk or some light cardio, go for it. If you want to do some lighter weight, higher rep stuff just to keep things moving, that's probably okay, too. But if you want to sit around watching re-runs of Married With Children, laughter is great medicine as well.

DR. BRYAN WALSH

WHAT YOU SHOULD DO

IF YOU FEEL HEALTHY AND SIMPLY WANT TO PREVENT GETTING SICK:

Stay moderately active most days of the week.

If you participate in high-intensity workouts, make sure you're getting enough rest and recovery time.

Manage extreme variations in stress levels, get plenty of sleep, and wash your hands.

IF YOU ARE ALREADY FEELING SICK, LET SYMPTOMS BE YOUR GUIDE.

Consider all the stress you're managing in your life (e.g., psychological, environmental, and so forth).

With a cold/sore throat (no fever or body aches/pains), easy exercise is likely fine as tolerated. You probably don't want to do anything vigorous, no matter how long in duration.

If you have a systemic illness with fever, elevated heart rate, fatigue, vomiting, diarrhea, muscle and joint pain/ weakness, and enlarged lymph nodes, get some rest! If you have a serious virus and you exercise, it can cause problems.

For the full article explaining this infographic:
http://www.precisionnutrition.com/working-out-when-sick

Pn PrecisionNutrition

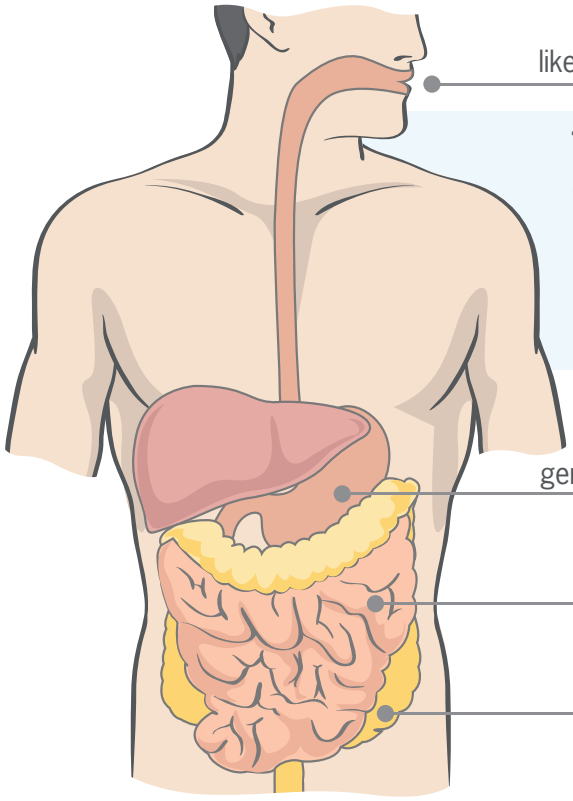
EATING WHEN SICK:

SHOULD YOU FEED A COLD? STARVE A FEVER?

Here's how to fight infection faster and avoid getting sick in the first place.

YOUR GUT: IMMUNITY HEADQUARTERS

Chemicals in the digestive tract fight bacteria, viruses and fungi.



Saliva contains powerful antimicrobials like lysozyme, alpha-amylase, and lactoferrin

THE DIGESTIVE SYSTEM CONTAINS OVER 70% OF OUR IMMUNITY

Hydrochloric acid breaks down most germs before they can reach your intestines

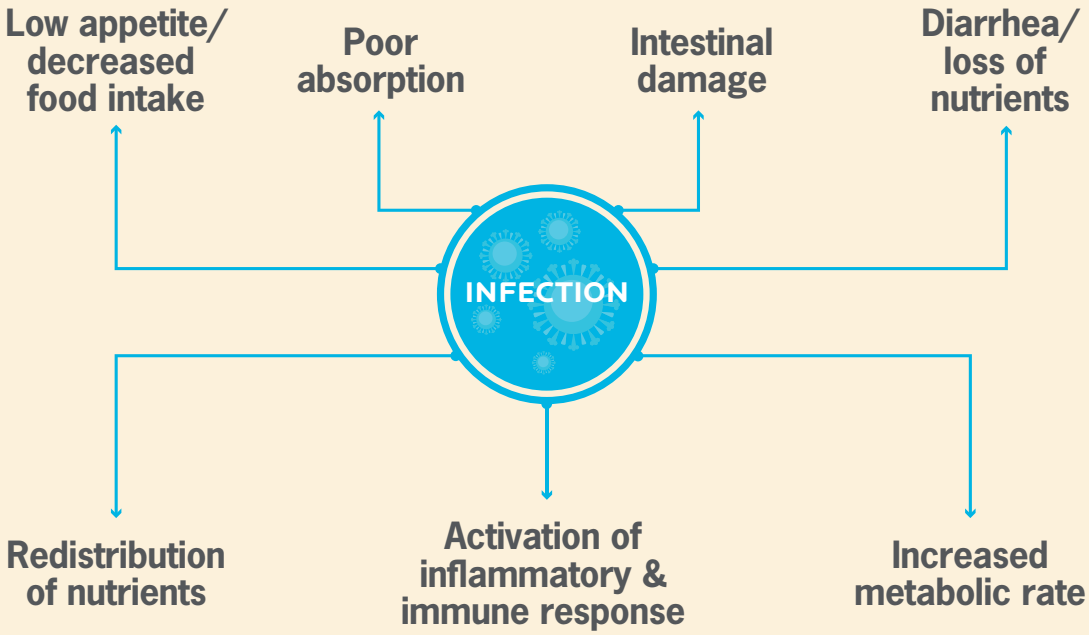
Proteins and other chemicals fight any remaining harmful bacteria

Our own good bacteria provide strong protection, too

FEEDING THE IMMUNE SYSTEM

The immune system needs plenty of nutrients, so if your diet is poor, you'll get sick more often (catch-22: you eat and absorb less when you're sick).

DECREASED NUTRIENT AVAILABILITY



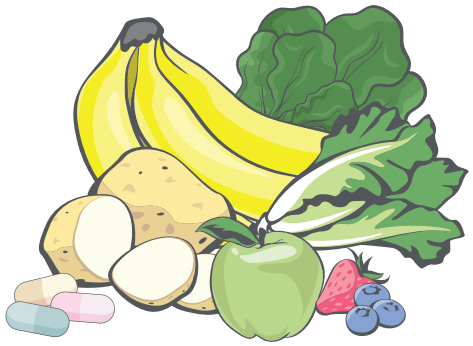
INCREASED DEMAND FOR NUTRIENTS

BALANCE YOUR GOOD BACTERIA

Prebiotic and probiotic foods will help by building your healthy bacteria.
If you're already sick, though, consider supplementation.

PREBIOTICS

(2-3 SERVINGS A DAY)



- **Vegetables:** asparagus, garlic, Jerusalem artichokes, leeks, onions
- **Carbs:** barley, beans, oats, quinoa, rye, wheat, potatoes, yams
- **Fruit:** apples, bananas, berries, citrus, kiwi
- **Fats:** flax seeds, chia seeds
- **Supplements:** With meals, take capsules or powders containing 2-4g per day.

PROBIOTICS

(1-2 SERVINGS A DAY)

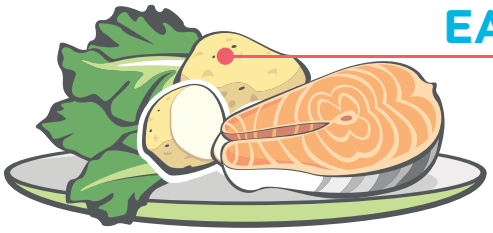
- **Dairy:** yogurt, cheese and kefir with live and active cultures
- **Fermented products:** pickles, sauerkraut, kimchi, miso, tempeh, soy sauce, wine
- **Supplements:** With meals, take refrigerated capsules or powders providing 3-5 billion “live organisms” per day (10 billion if you’re sick).

ABOUT “FEED A COLD, STARVE A FEVER”...

Even the healthiest diet can't protect you from every invader.
So, how much should you eat when you're sick?

FEVERS | **BACTERIAL INFECTIONS**   **VIRAL INFECTIONS** | **COLDS**

Science hasn't confirmed whether or not “feed a cold, starve a fever” actually works.
Which is why the best prescription is probably:



EAT IF YOU'RE HUNGRY

DON'T EAT IF YOU'RE NOT

FOODS THAT CAN SPEED RECOVERY...

Shown to fight germs and improve symptoms, these may help you feel better faster.

HONEY

Antibacterial and antimicrobial properties; an effective cough suppressant.

GARLIC

Acts as an antibiotic; can lessen the severity of colds and other infections.

CHICKEN SOUP

Provides fluids, electrolytes and anti-inflammatory nutrients that decrease symptoms.

GREEN TEA

Boosts B cell antibodies; helps us get rid of invading pathogens.

ELDER-BERRIES

Anti-viral properties; rich in phytonutrients.

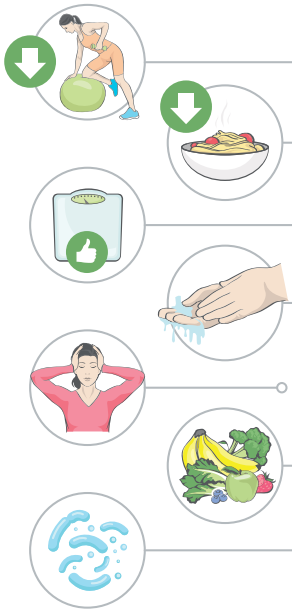
...AND SUPPLEMENTS THAT MAY HELP, TOO

- Vitamin C
- Zinc
- Elderberry Extract
- Ginseng

- Quercetin
- Beta-glucan
- Stevia
- Selenium

YOUR STAY-HEALTHY PRIORITIES (IN ORDER OF IMPORTANCE)

TO PREVENT GETTING SICK:



- Avoid over- or under-exercising
- Avoid over- or under-eating
- Maintain a healthy body weight
- Wash your hands
- Get enough sleep and manage stress
- Eat nutrient-dense foods
- Feed your healthy bacteria

IF YOU'RE ALREADY FEELING SICK:

- Drink lots of fluids
- Rest and recover
- If you're hungry, eat
- If you're not hungry, don't
- Focus on immune-boosting foods
- Supplement with pre- and probiotics
- Use immune-boosting supplements

For the full article explaining this infographic:
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