

EXERCISE WHEN SICK?

SHOULD YOU SWEAT IT OUT? OR REST AND RECOVER?

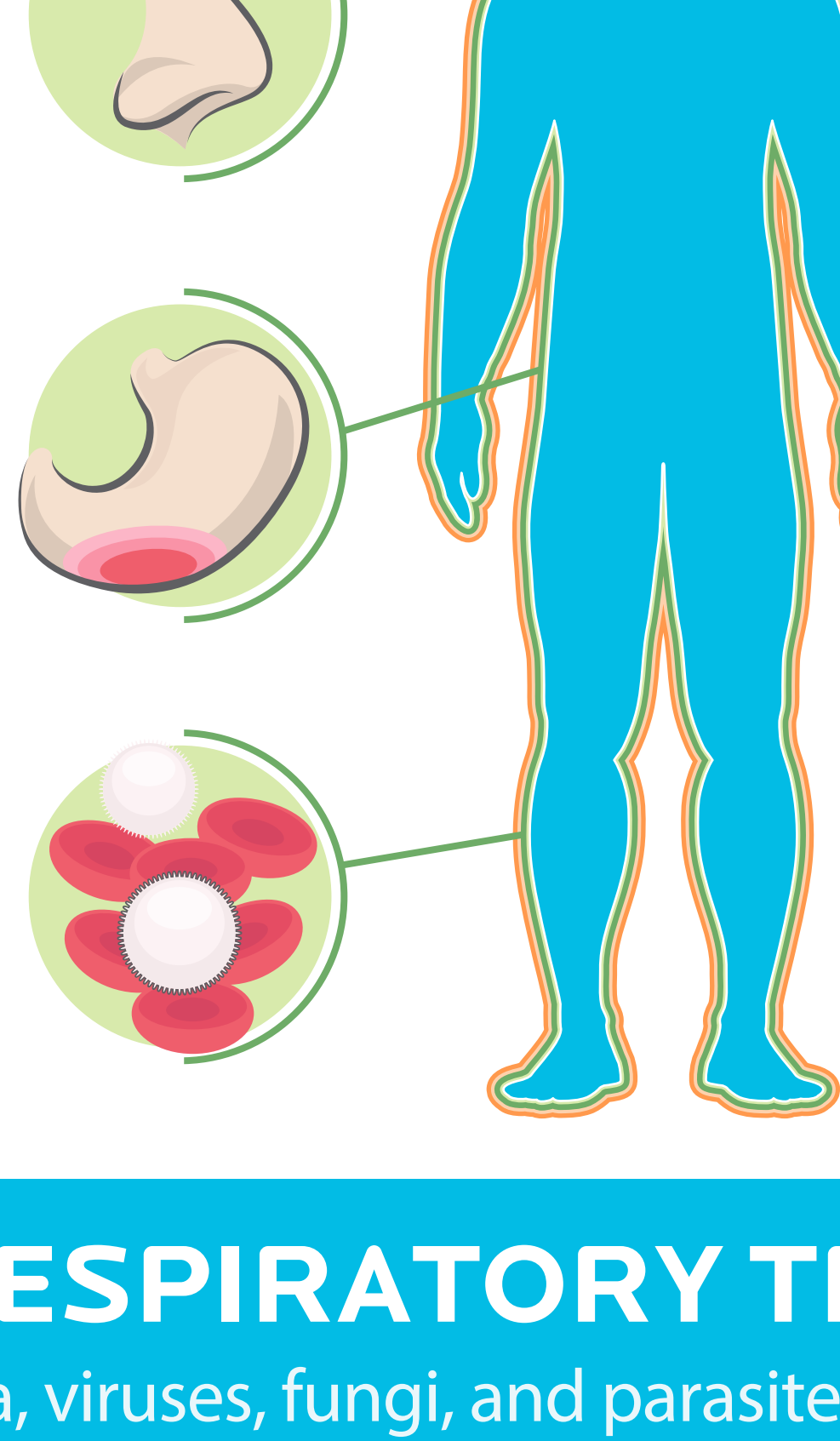
Everybody gets sick. But it's tough to know what to do about it. Is exercise, or rest, the best medicine? Let's find out.

IMMUNITY

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

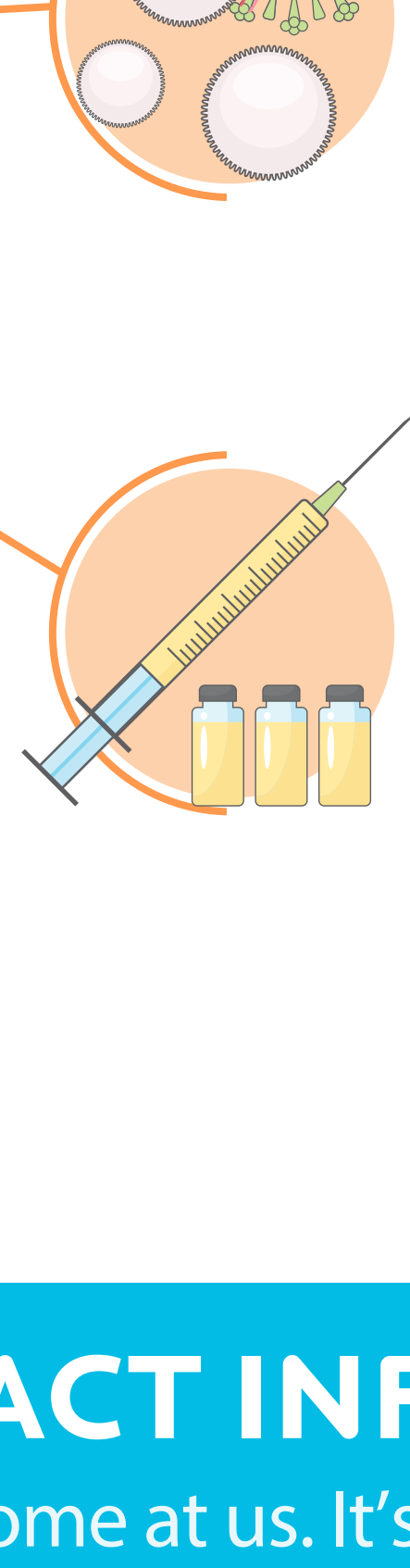
INNATE IMMUNITY (NATURAL IMMUNITY)

- 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.

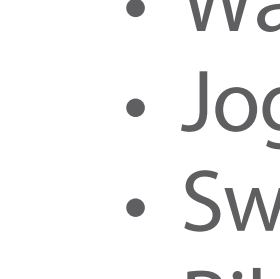
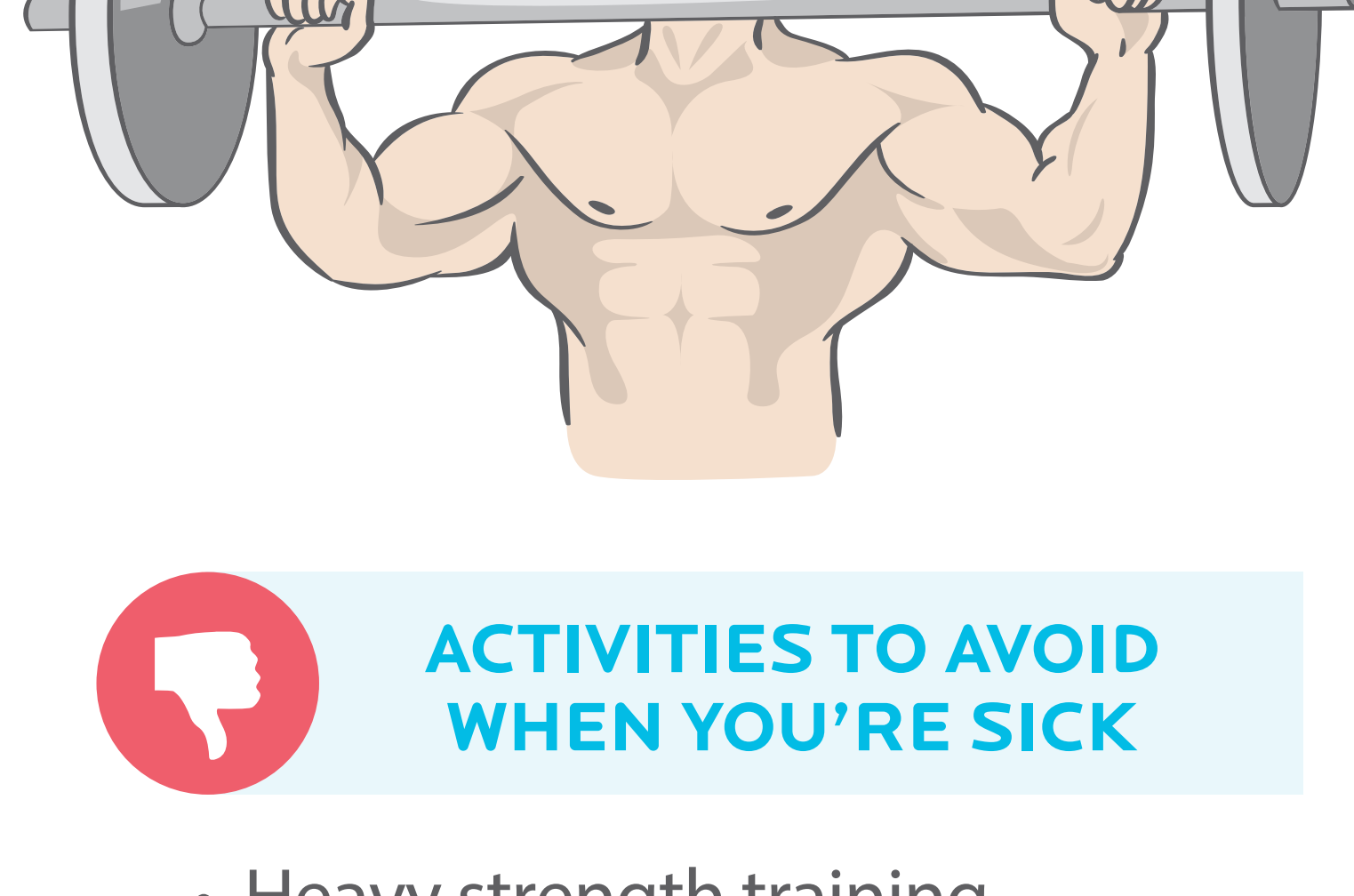


UPPER RESPIRATORY TRACT INFECTIONS

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

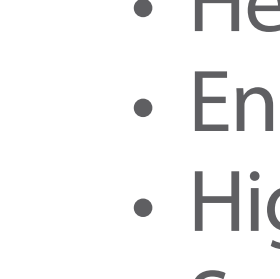
- COLDS
- MIDDLE EAR INFECTIONS
- SINUSITIS
- INFLUENZA
- COUGHS
- TONSILLITIS
- THROAT INFECTIONS

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

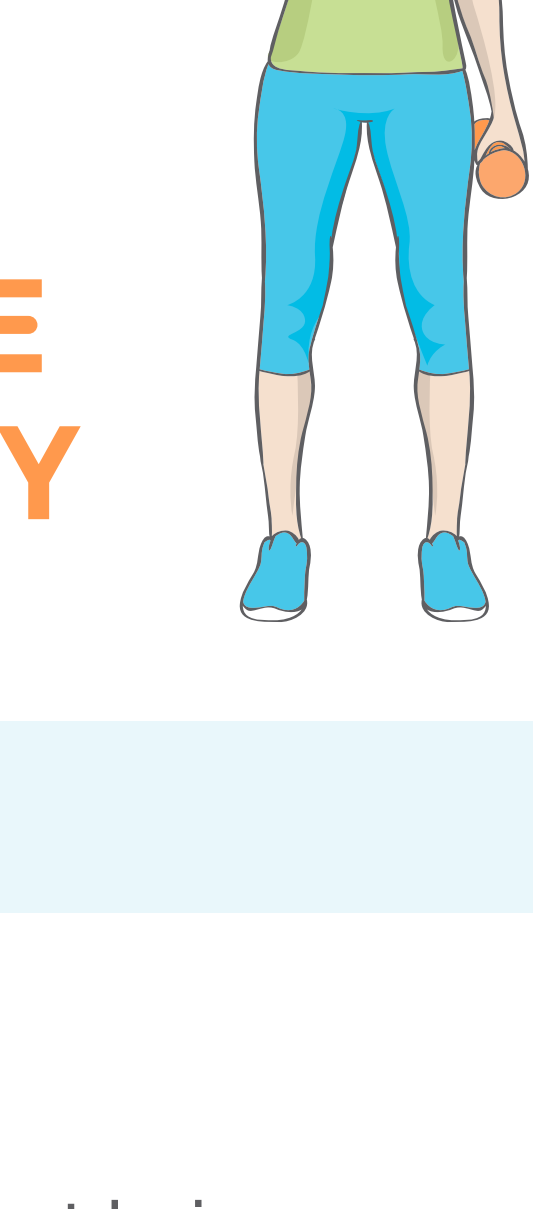
CHRONIC RESISTANCE TRAINING

stimulates
INNATE IMMUNITY

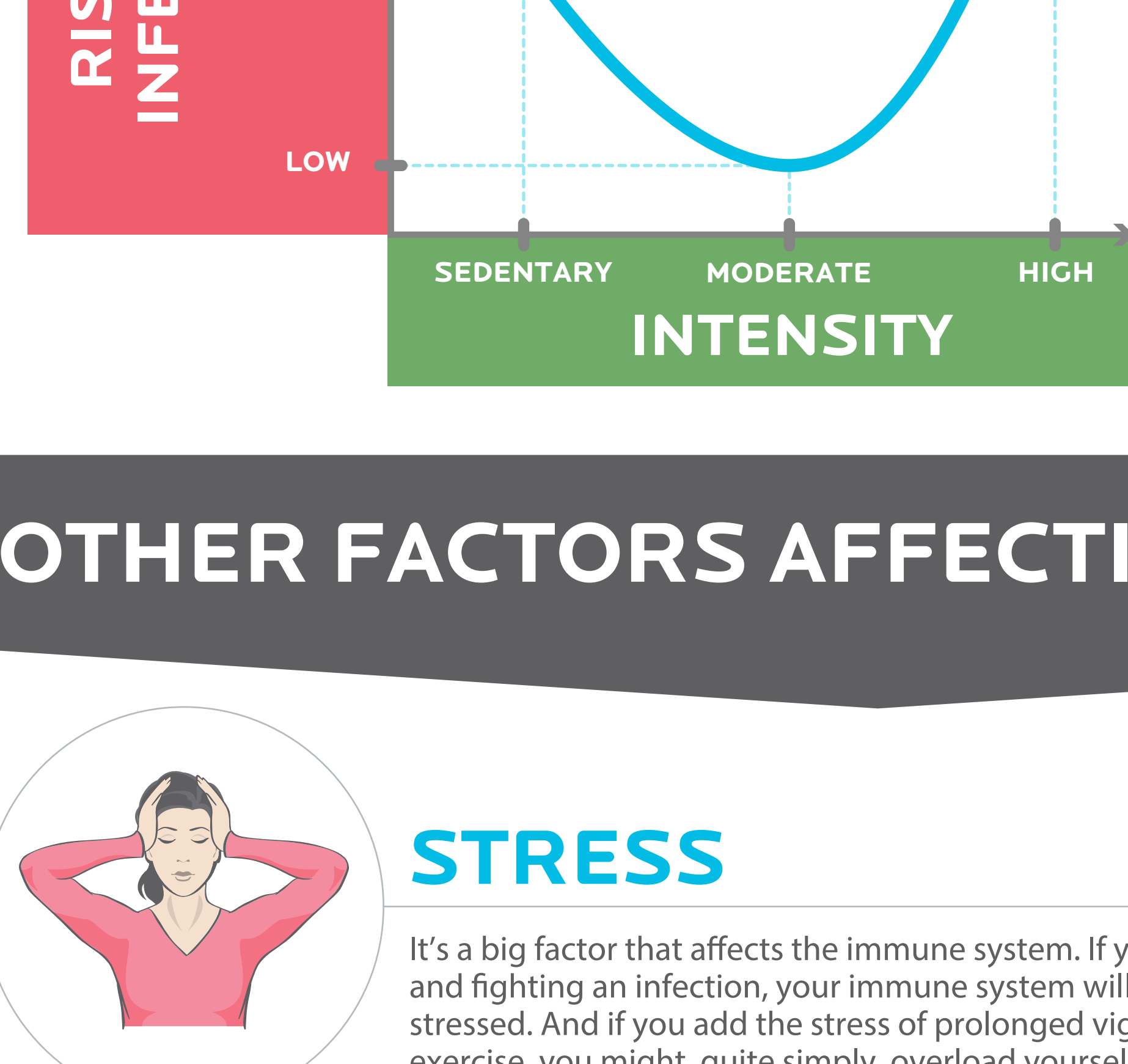


CHRONIC MODERATE EXERCISE

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:		DAY 2 OF ILLNESS:	
✓ SYMPTOMS • Sore throat • Coughing • Runny nose • Congested nose	EXERCISE Only low intensity	✓ 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 • Muscle/joint pain • Headache • Fever • Malaise • Diarrhea • Vomiting	EXERCISE No exercise	✗ SYMPTOMS • Body temp >37.5-38 C • Increased coughing • Diarrhea • Vomiting	EXERCISE No exercise
✓ 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 other symptoms improved	EXERCISE Wait 24 hours, then return to exercise
✗ SYMPTOMS • Fever and symptoms still present	EXERCISE Consult doctor	✗ 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:

- DR. JOHN BERARDI**: 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. BRYAN WALSH**: 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.

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.