


EXERCISE, MITOCHONDRIA... & US

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THE EUROPEAN UNIVERSITY GAMES 2018 HAVE ARRIVED TO COIMBRA AND THE CITY IS READY TO EMBRACE THIS SPORTS FESTIVAL.



COIMBRA 2018
EUROPEAN UNIVERSITIES GAMES


a winner's heartbeat!

JULY 15



JULY 28

AS ENJOYABLE AS IT IS, ENTERTAINMENT IS NOT THE ONLY POSITIVE ASPECT OF SPORTS.



EXERCISE IMPROVES OUR FITNESS AND THE FUNCTION OF ALL ORGANS AND SYSTEMS IN THE BODY, INCLUDING THE BRAIN.

EXERCISING IS VERY IMPORTANT.

BECAUSE IT IS FUN?

YES, CERTAINLY, BUT ALSO BECAUSE IT IS A MOTOR OF HEALTHY LIVING.

Physical inactivity is a risk factor for:

- Cardiovascular Diseases
- Fatty Liver
- Cancer
- Diabetes

>80% of adolescents

25% of adults

...are not active enough

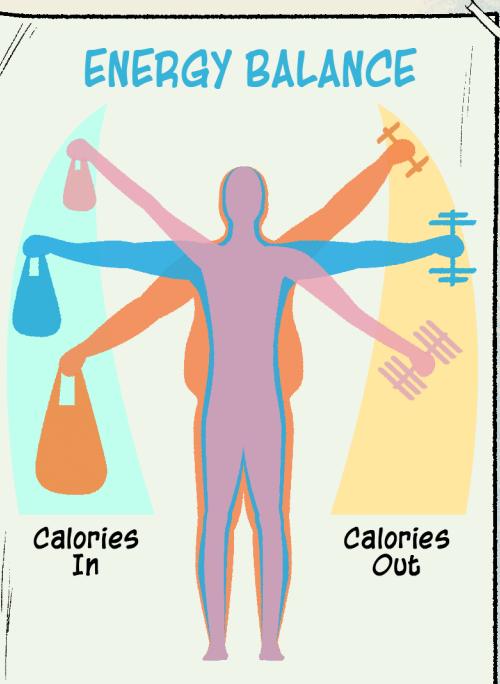
Insufficient physical activity...

...causes 3.2 million deaths/year

IN FACT, THE LACK OF PHYSICAL ACTIVITY HAS SERIOUS CONSEQUENCES ON OUR BODY.

MITOCHONDRIA, AN ESSENTIAL ORGANELLE IN OUR CELLS, USES OXYGEN TO CONVERT SUGARS AND FATS INTO ATP, THE ENERGY CURRENCY WE USE TO MOVE AND EXERCISE.

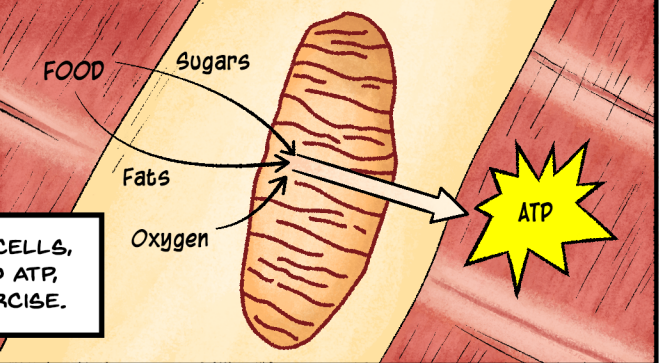
PHYSICAL ACTIVITY HELPS PRESERVE A HEALTHY **ENERGY BALANCE** BY CONSUMING THE ENERGY PROVIDED BY FOOD. IF OUR DAILY ACTIVITY (CALORIES OUT) DOESN'T COMPENSATE FOR THE ENERGY INTAKE (CALORIES IN), OUR BODY STORES FAT, WHICH IN EXCESS MIGHT CAUSE DISEASE.



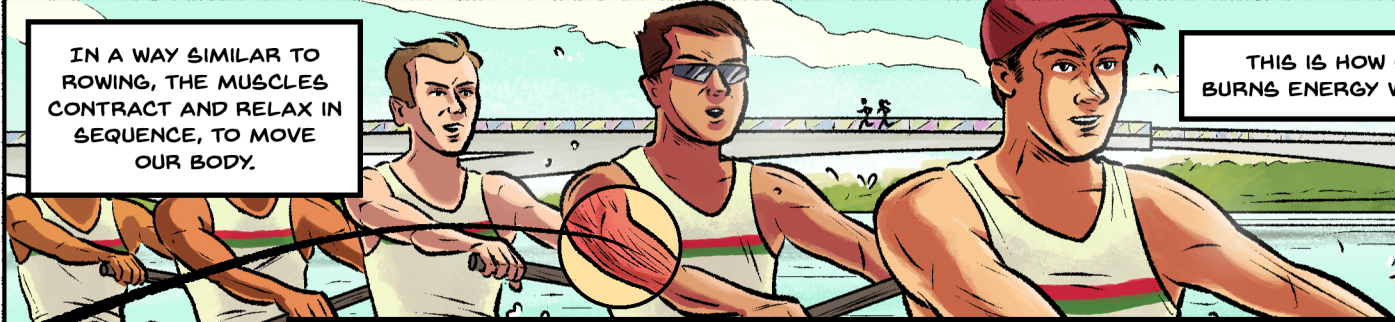
ENERGY BALANCE

Calories In

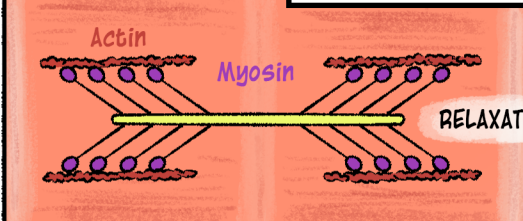
Calories Out



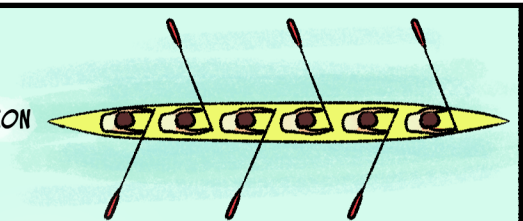
IN A WAY SIMILAR TO ROWING, THE MUSCLES CONTRACT AND RELAX IN SEQUENCE, TO MOVE OUR BODY.



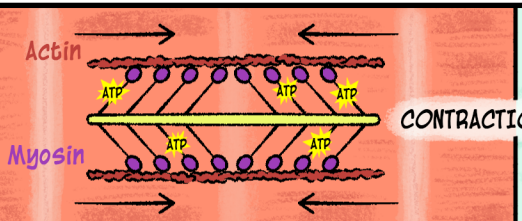
THIS IS HOW OUR BODY BURNS ENERGY WHEN MOVING.



RELAXATION

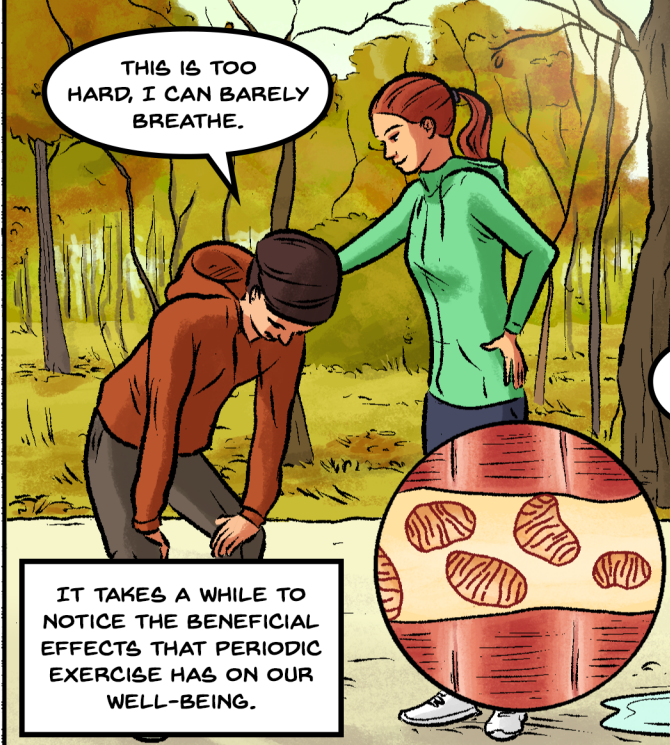


CONTRACTION

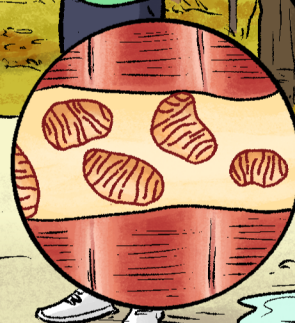


THE ATP PRODUCED BY MITOCHONDRIA IS NEEDED FOR THE MYOSIN HEADS TO "ROW" AGAINST THE ACTIN FILAMENTS AND CONTRACT THE MUSCLE.

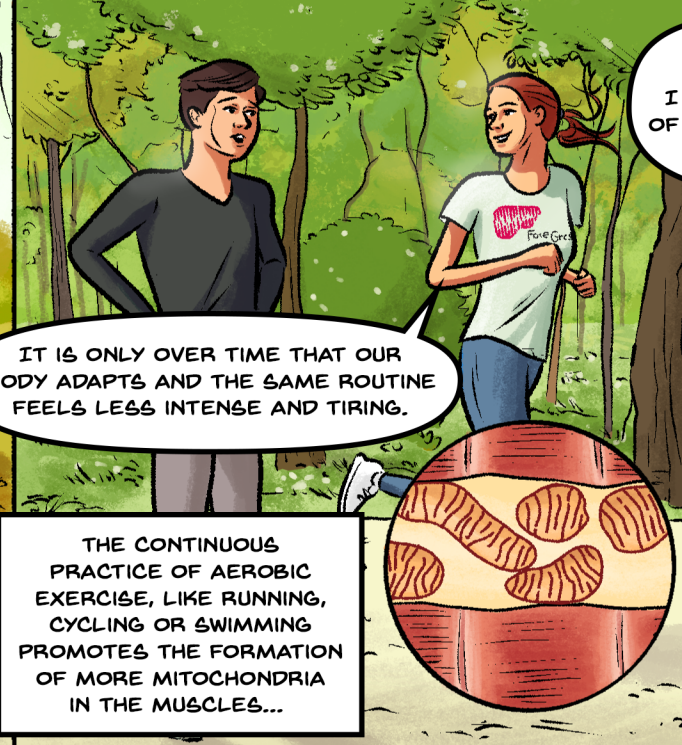
THIS IS TOO HARD, I CAN BARELY BREATHE.



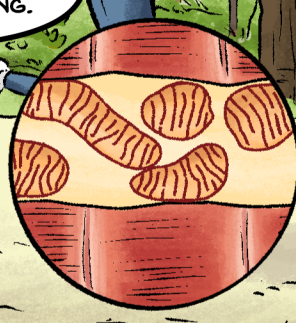
IT TAKES A WHILE TO NOTICE THE BENEFICIAL EFFECTS THAT PERIODIC EXERCISE HAS ON OUR WELL-BEING.



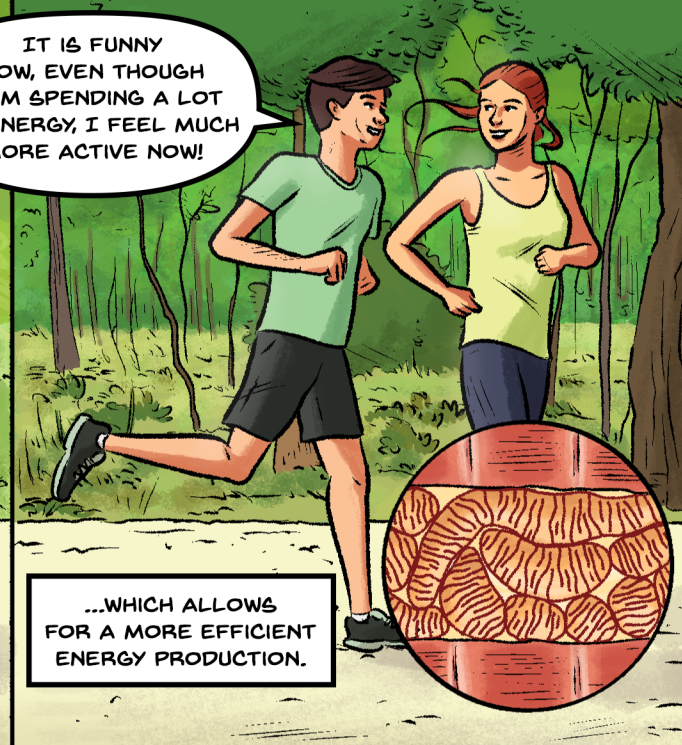
IT IS ONLY OVER TIME THAT OUR BODY ADAPTS AND THE SAME ROUTINE FEELS LESS INTENSE AND TIRING.



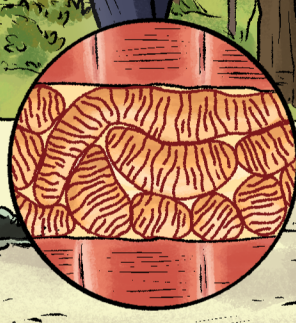
THE CONTINUOUS PRACTICE OF AEROBIC EXERCISE, LIKE RUNNING, CYCLING OR SWIMMING PROMOTES THE FORMATION OF MORE MITOCHONDRIA IN THE MUSCLES...




IT IS FUNNY HOW, EVEN THOUGH I AM SPENDING A LOT OF ENERGY, I FEEL MUCH MORE ACTIVE NOW!




...WHICH ALLOWS FOR A MORE EFFICIENT ENERGY PRODUCTION.



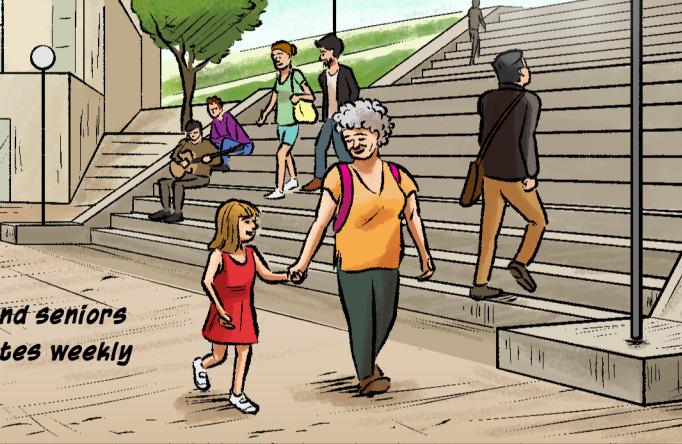
DIFFERENT AGE GROUPS HAVE DIFFERENT NEEDS OF MODERATE-INTENSITY PHYSICAL ACTIVITY TO STAY HEALTHY...



children and adolescents
60 minutes daily



WHAT ARE YOU WAITING FOR?! C'MON!



adults and seniors
150 minutes weekly