EOH Health

# Energy, Health, Resilience… what has F.I.T.T got to do with it?

15 March 2012

**Maretha Delport**: Executive Heath Promotion

Systems make it possible...
People make it happen

# Hippocrates

***"If we could give every individual the right amount of nourishment and exercise, not too little, not too much, we would have found the safest way to health."***

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# Major causes of death in the World

- Hypertension
- Smoking
- Diabetes
- Inactivity


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# Overall mortality

- An 11 years study, involving 13 344 men and women found that the least fit men and women died at a rate of **4.6 times greater** than the most fit.
- **Higher level of regular physical activity** are associated with **lower morality rate** for both young and adults.
- Those who are only **moderately active** on a regular basis have **lower death rates** than those who are less active.

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# The Bottom Line

- "The cost of **physical inactivity**, both in terms of **rand** and **negative health** effect, is astronomically high.
- It will continue to increase unless we take **action**."

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# Why Physical Activity?

Physical inactivity

- ↑ Risk for Cardiovascular disease
- ↑ Type 2 diabetes.
- ↑ Medication,
- ↑ Physician visits and
- ↑ Hospitalization.


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# Benefits of physical activity

**Reduces :**

- Mortality.
- Risk of dying prematurely.
- Risk of cardiovascular diseases.
- Risk of developing diabetes.
- Risk of developing high blood pressure.
- Cancer risk.

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# Benefits of physical activity cont…

**Improves :**

- Mental health.
- Helps control weight/obesity.
- Helps build and maintain healthy bones, muscles and joints.
- Quality of life.
- Psychological well-being.

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# Cardiovascular diseases

A 15 years old study, involving 4,000 young men and women aged 18-30 found that those who **exercise least** were much more likely to develop **heart diseases**, **diabetes** and **hypertension** in the middle ages than the one's who exercise more.


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# Stroke

- A review of 23 international studies concluded that highly **active people have 27% lower risk** of having a stroke or **dying** from a stroke...than people who **do not exercise**.

*Stroke, October, 2003*

- Research conduced at University Hospital in Goteburg, Sweden, which tracked 7,400 men for 28 years, found that those with a **BMI of more than 30** are **93%** more likely to suffer a stroke than those with a **healthy BMI**.

*Stroke, October, 2004*

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# Cancer

- 95 000 people are newly diagnosed with colon cancer each year.
- Physical activity is associated with a decreased risk of colon cancer.

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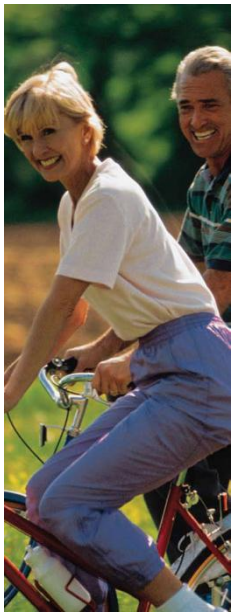
# Breast Cancer Prevention

- Research involving 74,000 women, over 25 years, found that **active women**, even those with a **family history** of breast cancer lowered their risk of the disease by **18%.**



*JAMA, September 16, 2003*

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# Colorectal Cancer

- A 20-year study, involving 2,500 men and women, aged 30 to 74, found that **long-term regular exercisers** reduced their risk of colon cancer by **69%.**

  *American Journal of Epidemiology, November, 2004*

- Men and women who **exercise regularly lower** their risk for rectal cancer by **40% to 50%.**

  *American Journal of Epidemiology, September, 2003*

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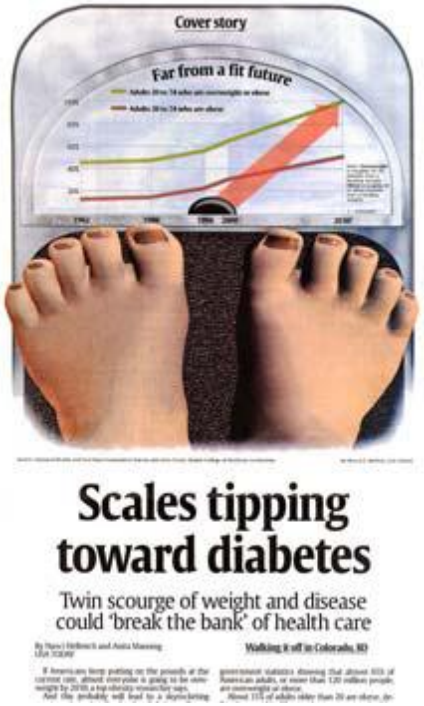
# Diabetes

- Regular exercise **lower the risk** of developing diabetes.
- A 15 year study involving 2,200 diabetic men found that the death rate for the **least fit** men was **7 times higher** than the death rate for their more fit counterparts.

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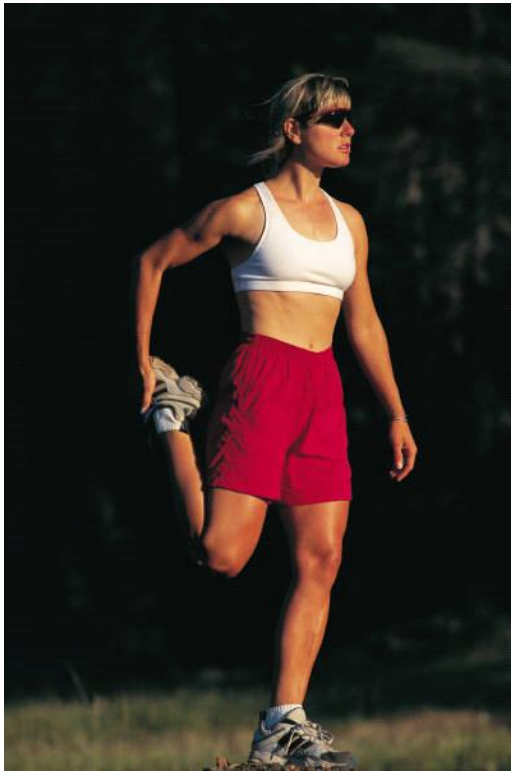
# Osteoarthritis



- Regular physical activity is necessary for maintaining strength and joint structure and function.
- Regular physical activity can help reduce arthritis pain.

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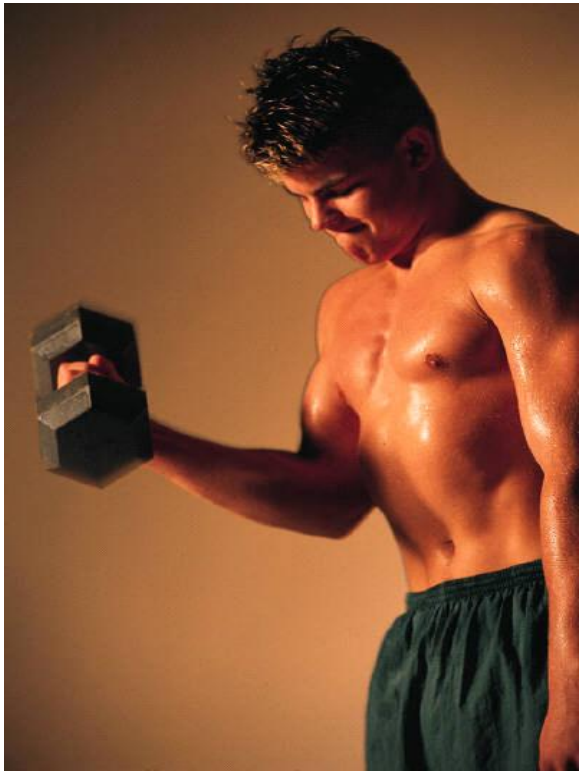
# Osteoporosis

- **Weight bearing physical activity** is essential for normal skeletal development during childhood and adolescence.



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# Obesity

- Regular physical activity helps people **maintain healthy weight**.
- Physical activity may also favorably affect **fat distribution**.

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# Mental health

- Relieves symptoms of **depression and anxiety.**
- Improve mood.
- Build self confidence and self-esteem.
- Emotional stress and depression.
- Alertness.

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# Cognitive Decline

- A 10-year study of 259 men, aged 81 to 100, found that sedentary men experienced 3.5 times greater mental decline than the men who maintained a high level of physical activity.

*Neurology, December 28, 2004*

# Parkinson's Disease

- Regular exercise has been shown to **halt** the progression of the **degeneration of nerve cells** that are normally **destroyed by Parkinson's.**

*Annual Meeting of the Society for Neuroscience, October, 2004*

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# Relief of Chronic Back Pain

- Research involving 1,300 men and women suffering from **chronic back pain** found that the optimal **treatment** for relief involved:

1) General Practitioner involvement

2) Spinal manipulation

3) A 12-week "Back To Fitness" program.

*British Medical Journal, November 19, 2004*

# Metabolic Syndrome

- Metabolic Syndrome is a deadly mix of **risk factors** including **high cholesterol, high blood sugar, high blood pressure and excess abdominal fat.**
- Research conducted at Johns Hopkins University School of Medicine found that a **six month** program of **regular exercise** could **reduce** the incidence of patients with metabolic syndrome by **41%**

*American Journal of Preventive Medicine, January, 2005*

- A 17-year study, conducted at the Yale University School of Medicine, found that **regular exercise** of any kind helps lower **cholesterol (LDL), blood sugar, blood pressure, keeps weight down, and improves mental outlook.**

*British Journal of Sports Medicine, August, 2004*

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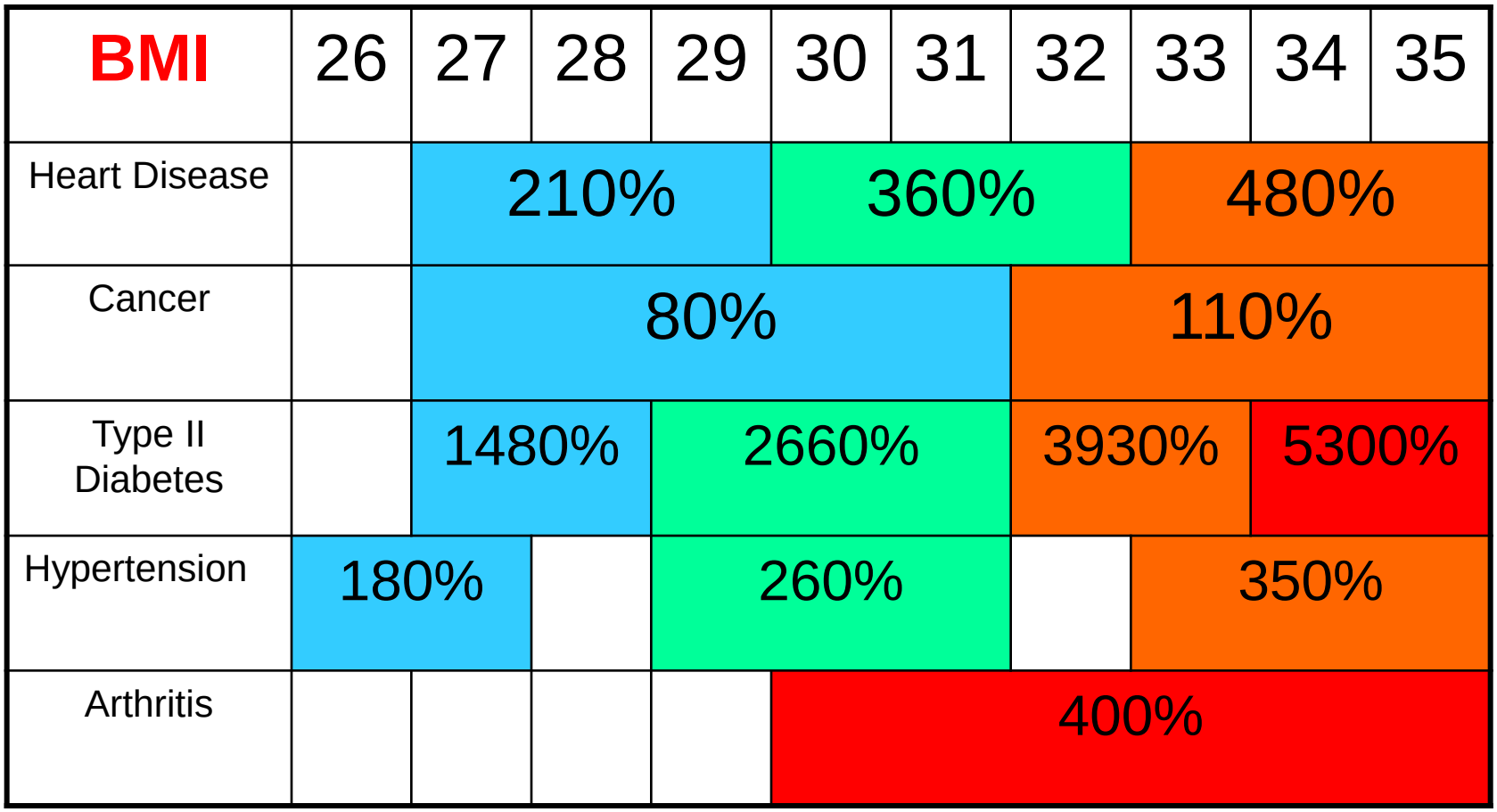
# Body Mass Index vs Disease

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# Quality of life

- Physical activity **improves quality of life** by **enhancing psychological-wellbeing**.
- People affected by poor health have increased quality of life duo to improving physical functioning when exercising.

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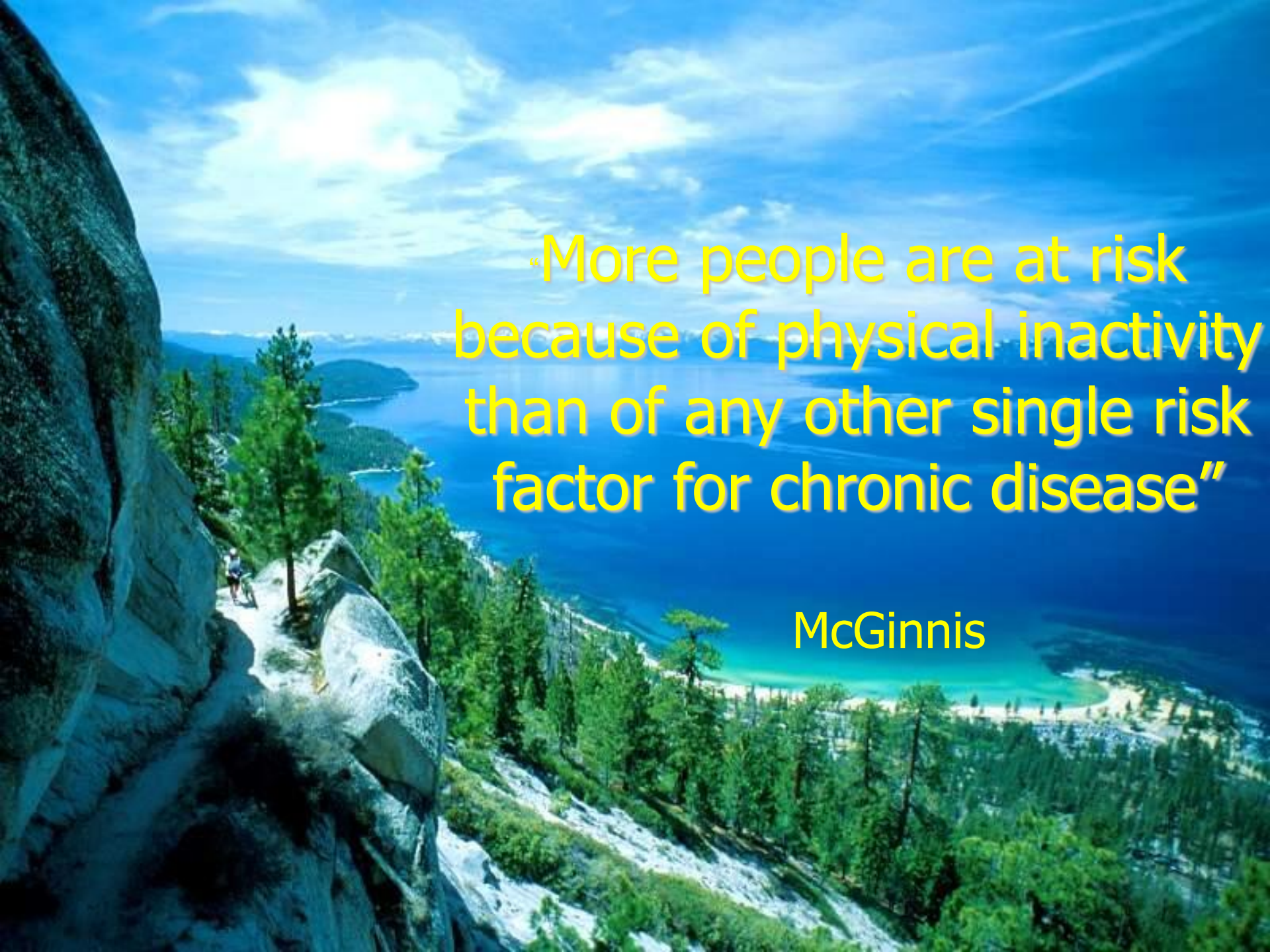
"More people are at risk because of physical inactivity than of any other single risk factor for chronic disease"
McGinnis

# Exercise?

**E**nergising
**X** training
**E**xcitement
**R**un, rock and roll
**C**ardiovascular
**I**ntensity
**S**tretching
**E**very other day

# How much exercise is enough for me?

## F.I.T.T. Principle

- Frequency
- Intensity
- Time
- Type

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# PHYSICAL ACTIVITY INDEX

**FREQUENCY**

1 = less than once a month

2 = few times a month

3 = 1-2 time/week

**4 = 3-5 times/ week**

5 = almost daily

**INTENSITY**

1 = not tired

2 = slightly tired

**3 = tired**

4 = very tired

5 = exhausted

**DURATION**

1 = <10 min

2 = 10-19 min

**3 = 20-30** min

4 = >30 min

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# Know your Body…

Target Heart Rate (THR)

- Maximum Heart Rate (MHR) = 220-Age
  - 220-40= 180
- 65% = MHR x 0.65
  - 180x0.65=117
- 85% = MHR x 0.85
  - 180x0.85=153
- **THR = 117-153**

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# FITT Principle

| | Hypertension | Cardiovascular Disease | Obesity | Type 2 diabetes |
|---|---|---|---|---|
| FREQUENCY | At least 3 days a week | 2-3 days a week | 3-5 days a week | At least 3 days a week |
| INTENSITY | 65-75% HR Max or RPE 3-4 | 75%-85% HR Max or RPE 4-6 | 75%-85% HR Max or RPE 4-6 | 50%-70% HR or > 4 RPE |
| TIME | 30-60 min continuous or intermitted exercise | At lease 20-30 minutes, preferably 45-60 minutes of continuous or intermitted exercises | No less than 30 minutes | No less than 30 min |
| TYPE | Large muscle groups maintained continuously and is rhythmical and aerobic in nature | Large muscle groups maintained continuously and is rhythmical and aerobic in nature | Large muscle groups maintained continuously and is rhythmical and aerobic in nature | Large muscle groups maintained continuously and is rhythmical and aerobic in nature |

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# FITT cont....

| | Osteoarthritis | Osteoporosis | Depression |
|---|---|---|---|
| FREQUENCY | 2-4 days a week | 3-5 days a week | At least 3 days a week |
| INTENSITY | 70%-75% HR Max or<br>RPE 2-4 | 75%-85% HR Max or<br>RPE 4-6 | 65%-75% HR Max or 3-4 RPE |
| TIME | No less than 30 minutes | Ideally no less than 30 min | 30-60 min continuous exercise |
| TYPE | Large muscle groups maintained continuously and is rhythmical and aerobic in nature | Weight bearing exercises like waking on a treadmill or stair climber for retaining of bone mineral density | Large muscle groups maintained continuously and is rhythmical and aerobic in nature |

When Cardiovascular disease is present always go for an assessment where safe Training heart rate can be determined

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# Resistance FITT

| | Hypertension | Cardiovascular Disease | Obesity | Type 2 diabetes |
|---|---|---|---|---|
| FREQUENCY | At least 3 days a week | 2 or more non consecutive days every week | 3 Times a week on non consecutive days every week | 3 Times a week on non consecutive days every week |
| INTENSITY | 65-75% HR Max or RPE 3-4 | 2-4 sets of 10-15 reps of 8-10 different exercises | 2-3sets of 10-15 reps of 8-10 different exercises | Three sets of 8-10 repetitions at a weight that cannot be lifted > 8-10 times. No heavy weights |
| TIME | 30-60 min continuous or intermitted exercise | 1-2 sets of 12-15 repetitions with 1 min rest in between sets or Circuit training of 15-20 reps with minimum rest in between exercises | 1-2 sets of 12-15 repetitions with 1 min rest in between sets or Circuit training of 15-20 reps with minimum rest in between exercises | Time to execute 3 sets of 8-10 reps with 1 min rest or circuit training with 15-20 reps |
| TYPE | Large muscle groups maintained continuously and is rhythmical and aerobic in nature | Dynamic exercise (concentric-eccentric contractions) executed with standard 'set and rest' method or in circuit training | Dynamic exercise (concentric-eccentric contractions) executed with standard 'set and rest' method or in circuit training | Dynamic exercise (concentric-eccentric contractions) executed with standard 'set and rest' method or in circuit training |

Exercise with head below the heart should be avoided and take care when position is changed from horizontal to upright position

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# Resistance training FITT cont.....

| | Osteoarthritis | Osteoporosis | Depression |
|---|---|---|---|
| FREQUENCY | 3 Times a week on non consecutive days every week | 2 or more non consecutive days every week | 3 Times a week on non consecutive days every week |
| INTENSITY | 2-3sets of 10-15 reps of 8-10 different exercises | 2-3sets of 10-15 reps | 2-3sets of 10-15 reps |
| TIME | 2-3 sets of 15-20 repetitions with 1 min rest in between sets or Circuit training of 15-20 reps with minimum rest in between exercises | 2-3 sets of 10-15 repetitions with 1 min rest in between sets | 2-3 sets of 12-15 repetitions with 1 min rest in between sets or |
| TYPE | Dynamic exercise (concentric-eccentric contractions) executed with standard 'set and rest' method or in circuit training | Dynamic exercise (concentric-eccentric contractions) executed with standard 'set and rest' method or in circuit training | Dynamic exercise (concentric-eccentric contractions) executed with standard 'set and rest' method or in circuit training |

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# Flexibility

- Daily basis
- 10-30 seconds
- All major muscles used

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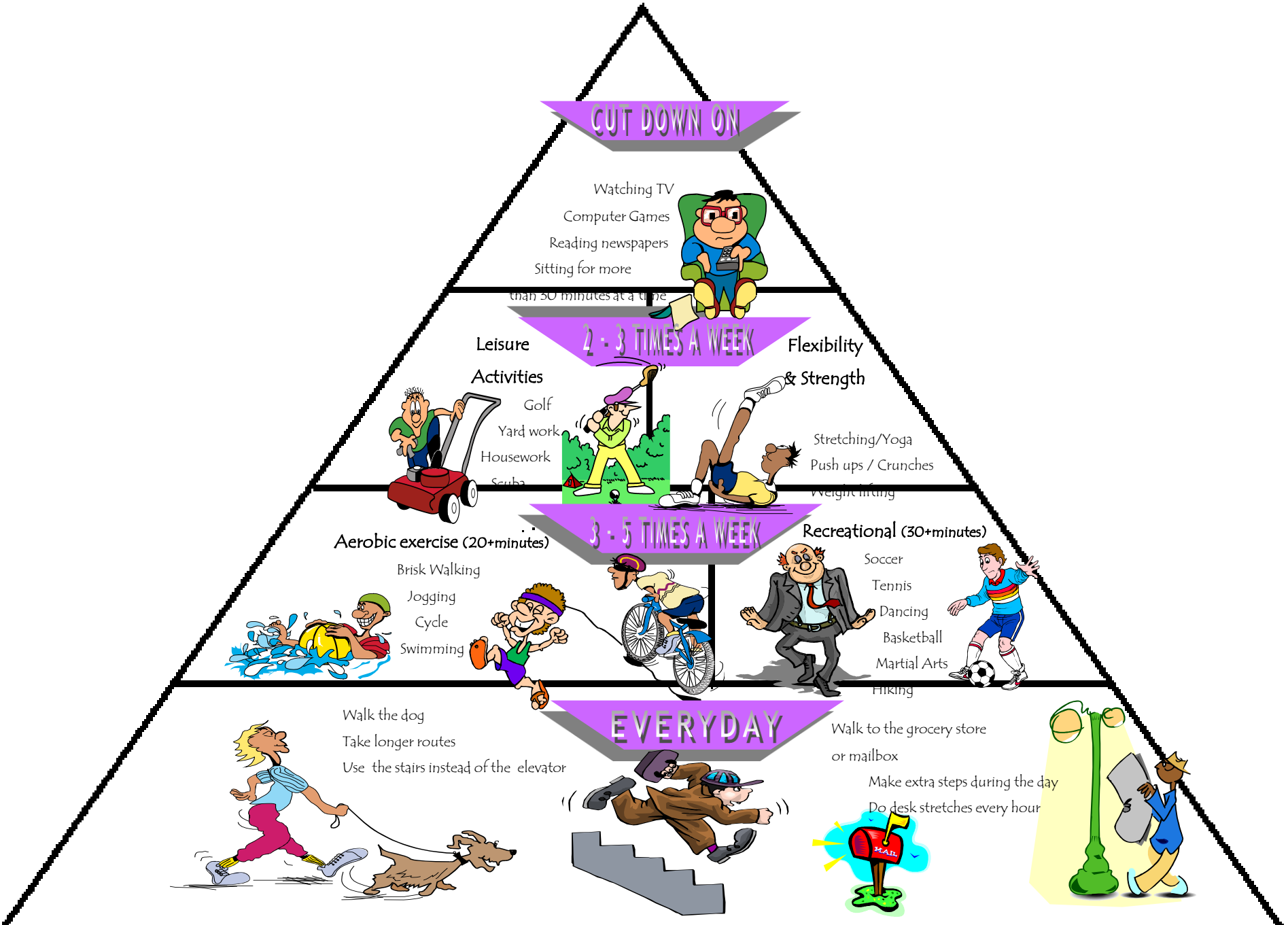
CUT DOWN ON
Watching TV
Computer Games
Reading newspapers
Sitting for more
than 30 minutes at a time
2 - 3 TIMES A WEEK
Leisure
Activities
Golf
Yard work
Housework
Scuba
Flexibility
& Strength
Stretching/Yoga
Push ups / Crunches
Weight lifting
3 - 5 TIMES A WEEK
Aerobic exercise (20+minutes)
Brisk Walking
Jogging
Cycle
Swimming
Recreational (30+minutes)
Soccer
Tennis
Dancing
Basketball
Martial Arts
Hiking
EVERYDAY
Walk the dog
Take longer routes
Use the stairs instead of the elevator
Walk to the grocery store
or mailbox
Make extra steps during the day
Do desk stretches every hour
MAIL

# Physical activity at home

- Do **house work yourself** instead of hiring someone to do it.
- Work in the **garden or mow lawn**, rake leaves, prune, dry and pick up trash.
- **Walk or bike** to the shop instead of driving
- When walking, pick up pace from leisure to **brisk walking**,
- When watching TV **sit-up** instead of **lying** on the sofa.

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# Physical activity at home cont. …

- **Walk** the dog.
- Park **further away** at the shopping mall and walk extra distance, wear your **walking shoes** and sneak in extra lap around the mall.
- **Stretch** to reach items in high places and **squat or bend** to look items at floor level.

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# Physical activity at the office

- Brainstorm project ideas with co-worker while **taking a walk**.
- **Walk** down the passage to speak with someone rather than using **telephone**.
- Take **stairs** instead of the elevator or get off a few floors **earlier** and take stairs the rest of the way.
- Get **off the bus** a few blocks early and **walk** the rest of the way to work or home.
- **Walk around** the building for a break during work days or during lunch.


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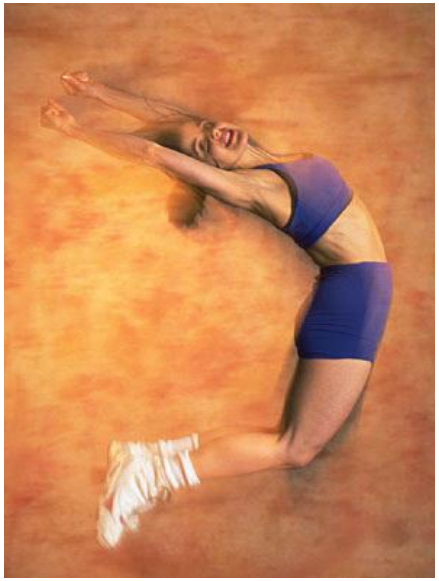
# Physical activity at play

- Plan family outings and **vacations** that include physical activity (e.g. hiking).
- **Dance** with someone or by yourself.
- When **golfing , walk** instead of using a cart.
- At the lake rent a **canoe** instead of  a speed boat.



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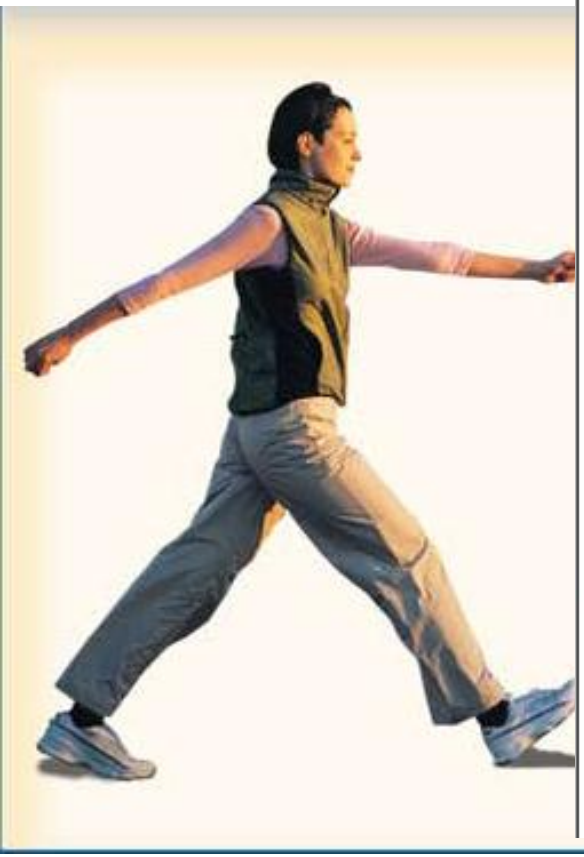
# Step to Success

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# How Many Steps per Day?

| | |
|---|---|
| Long term Health and Reduced Chronic Disease Risk | 10 000 steps a day |
| Successful and Sustained Weight Loss | 12 000-15 000 steps a day |
| Build Aerobic Fitness | 3 000 or more steps FAST |

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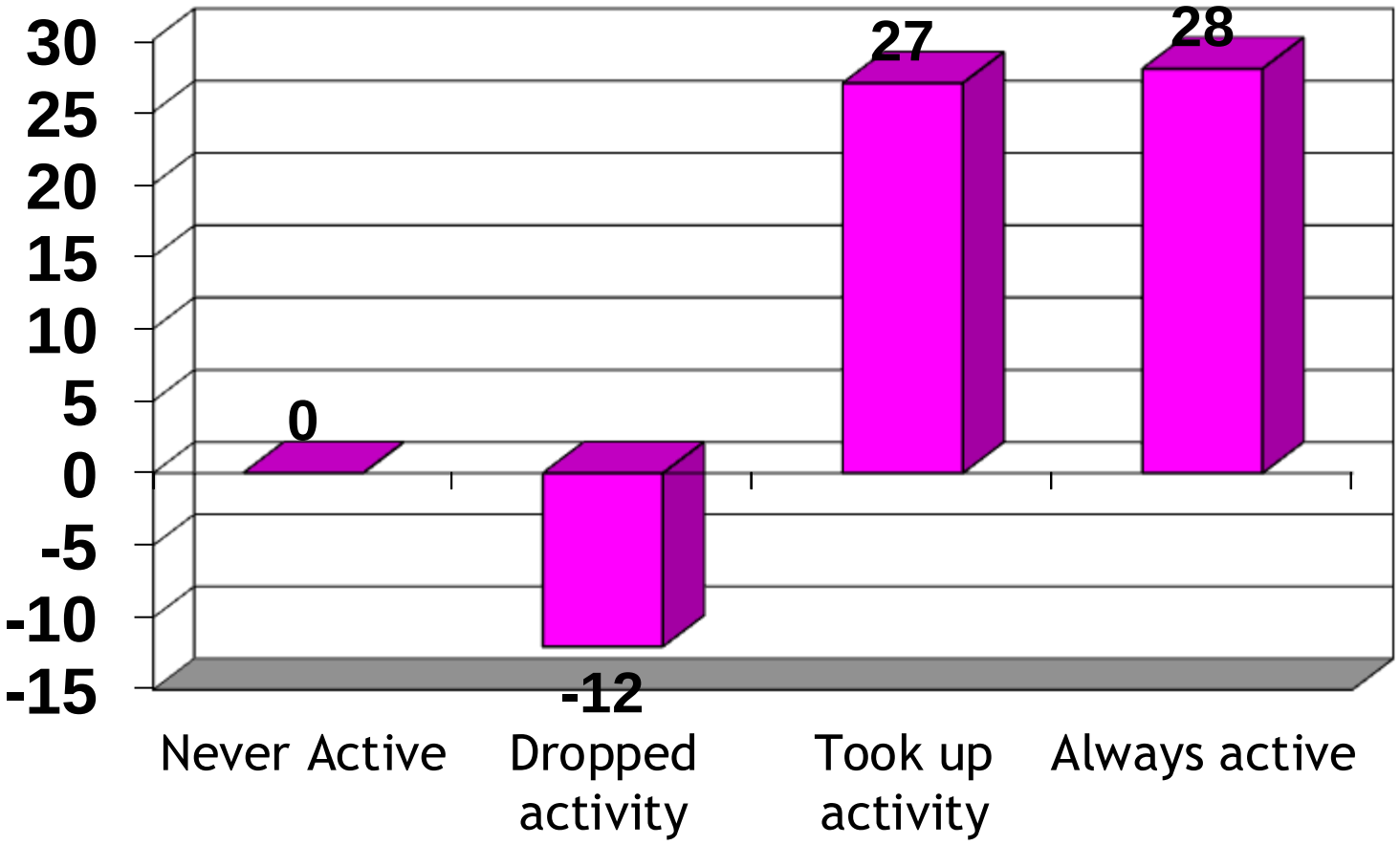
# Physical Activity vs Mortality

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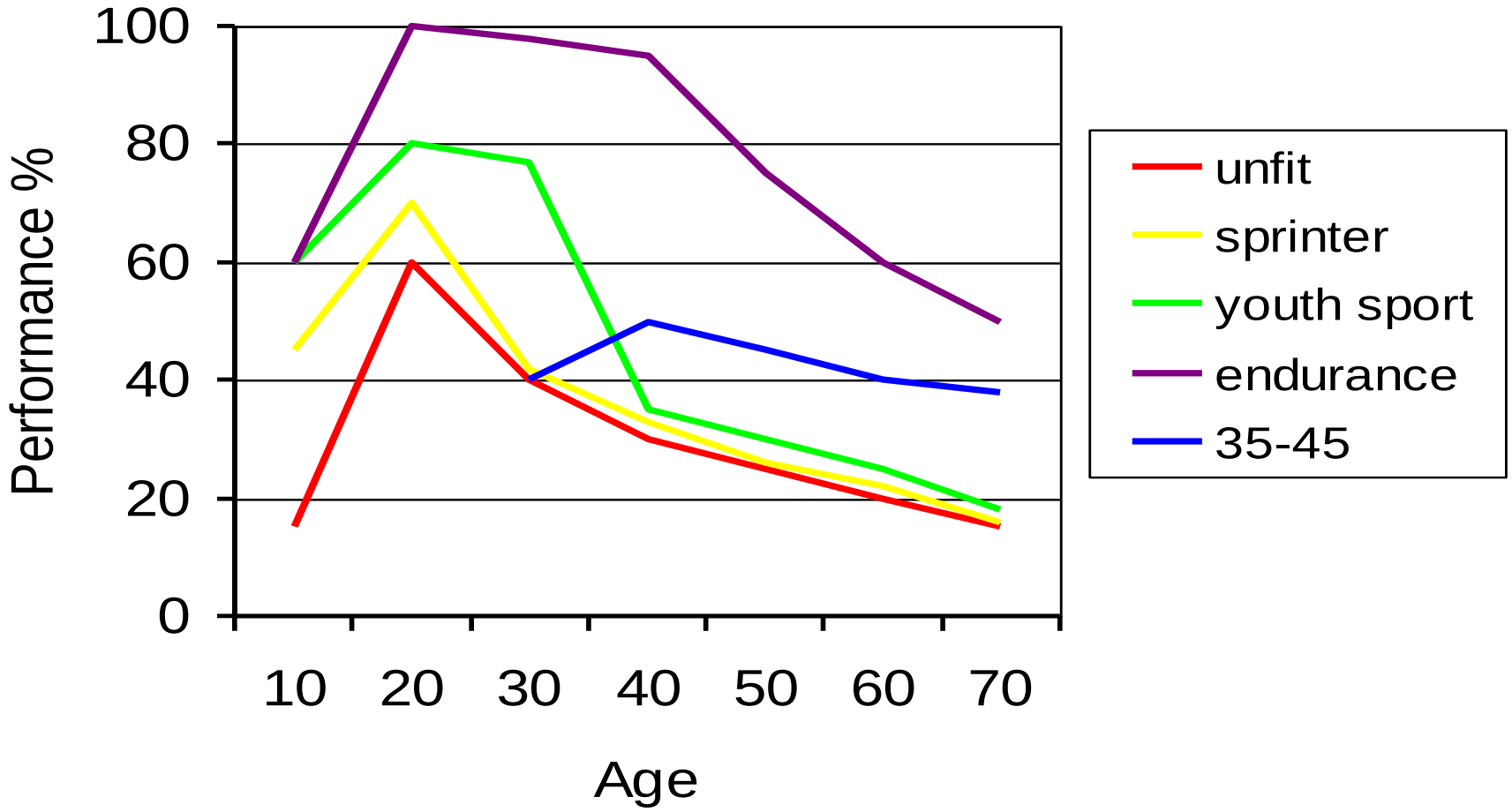
# PHYSICAL ACTIVITY FOR LIFE

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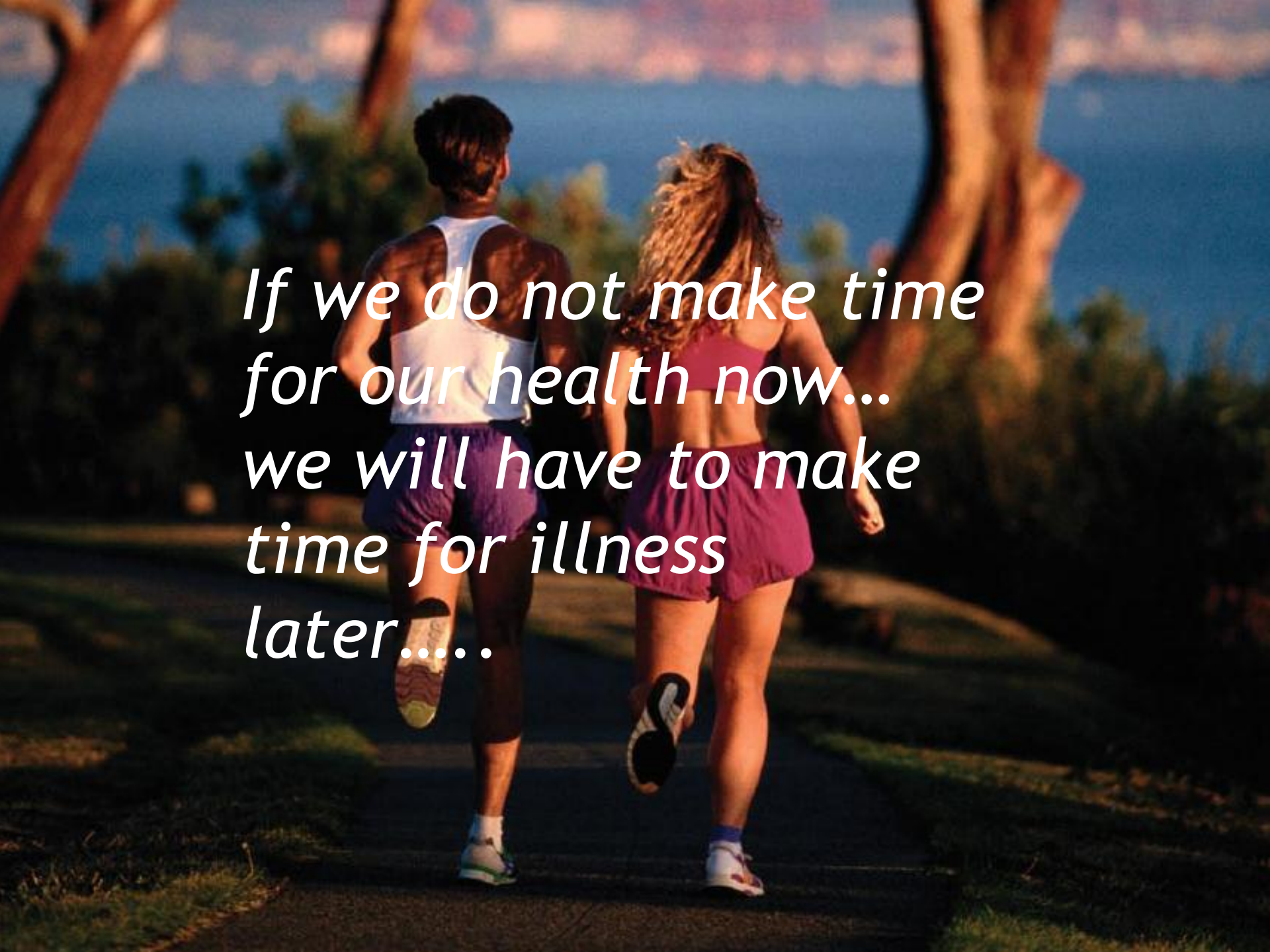
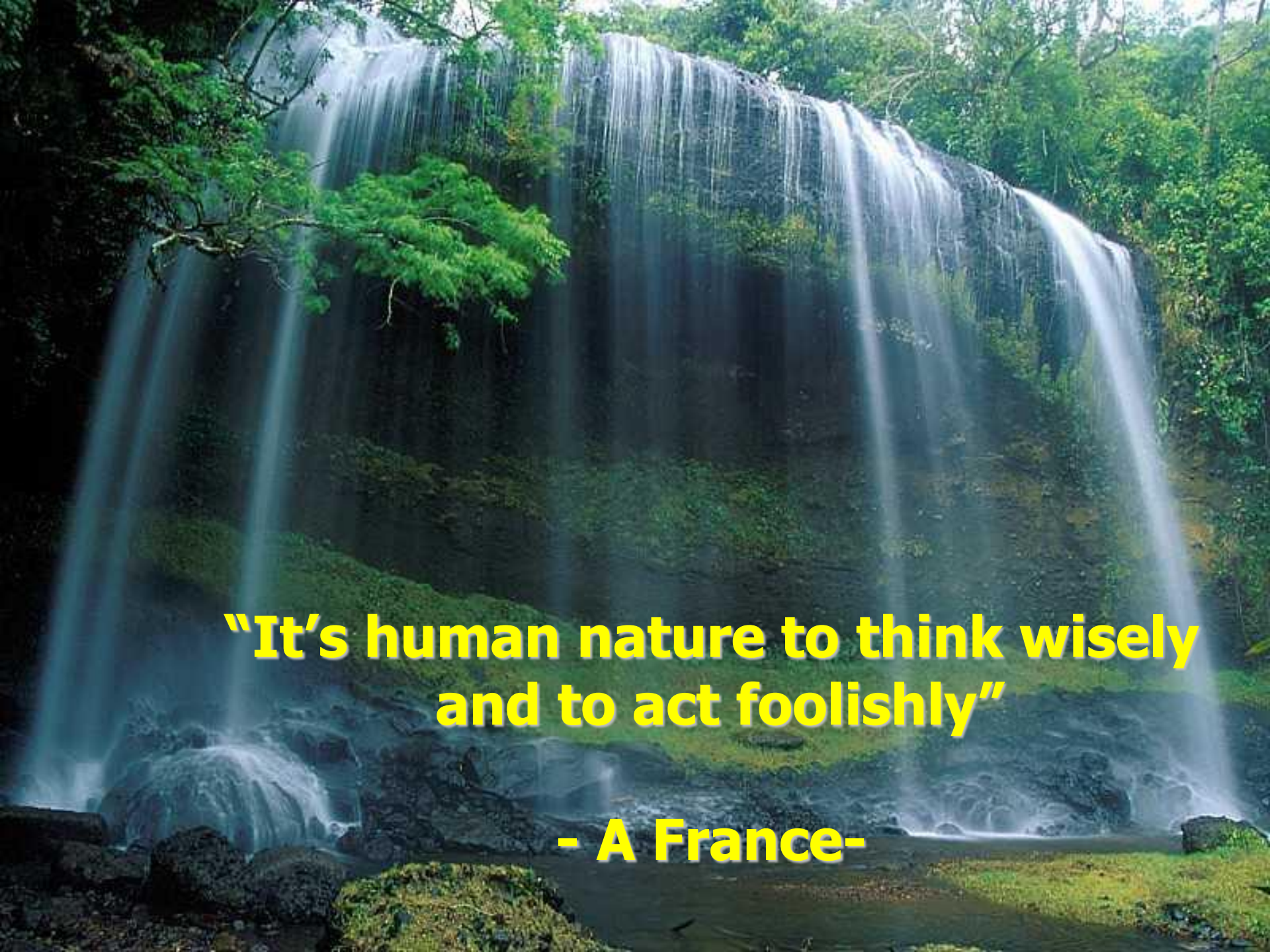

*If we do not make time for our health now… we will have to make time for illness later…..*


"It's human nature to think wisely and to act foolishly"
- A France-

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# THANK YOU

Systems make it possible...

People make it happen