

Physical Activity and Kidney Disease

- Sedentary Behaviour
- Benefits of Exercise-Research Findings
- Basic Principles of Exercise
- How to get Started

Activity Levels

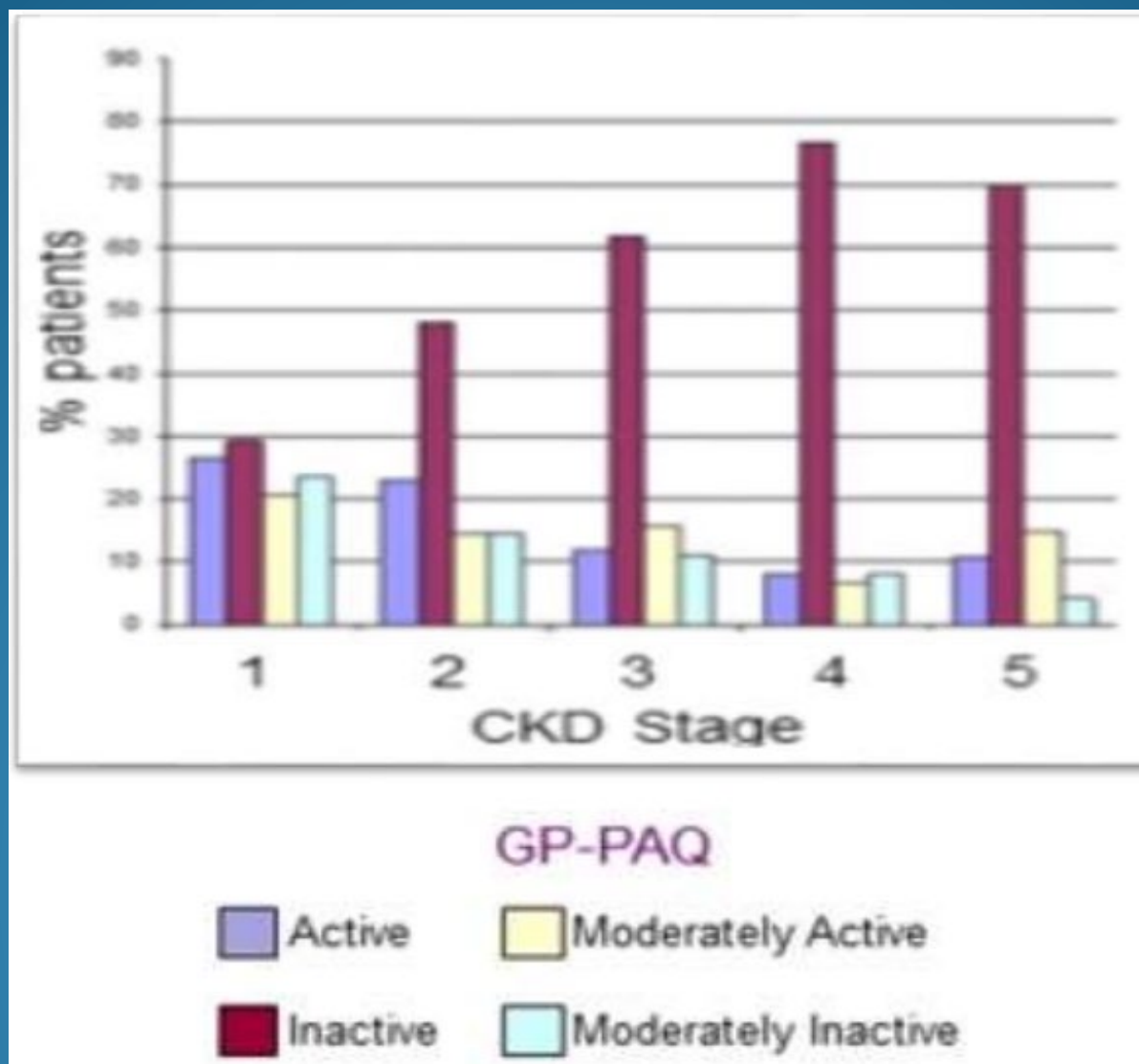
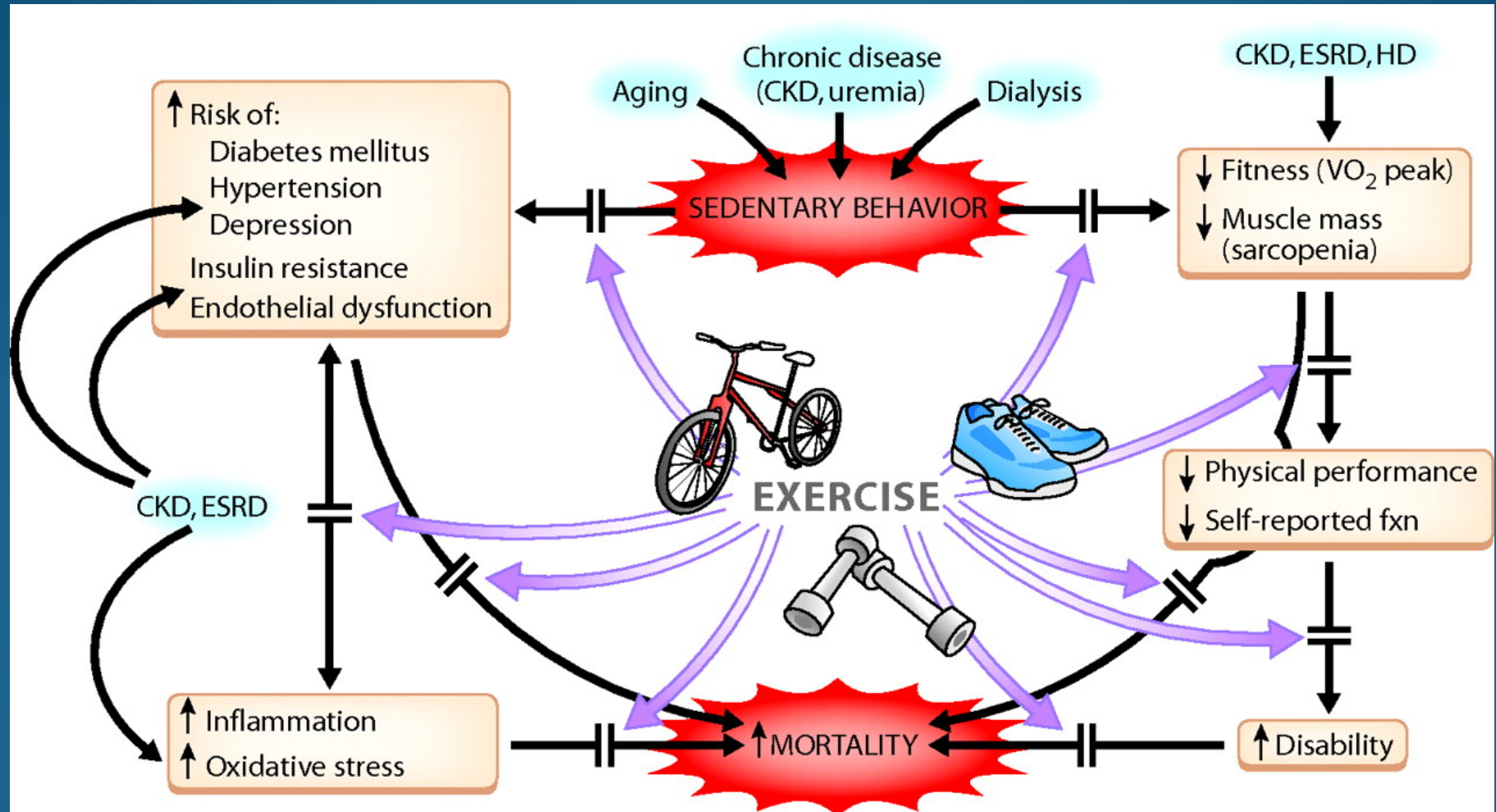
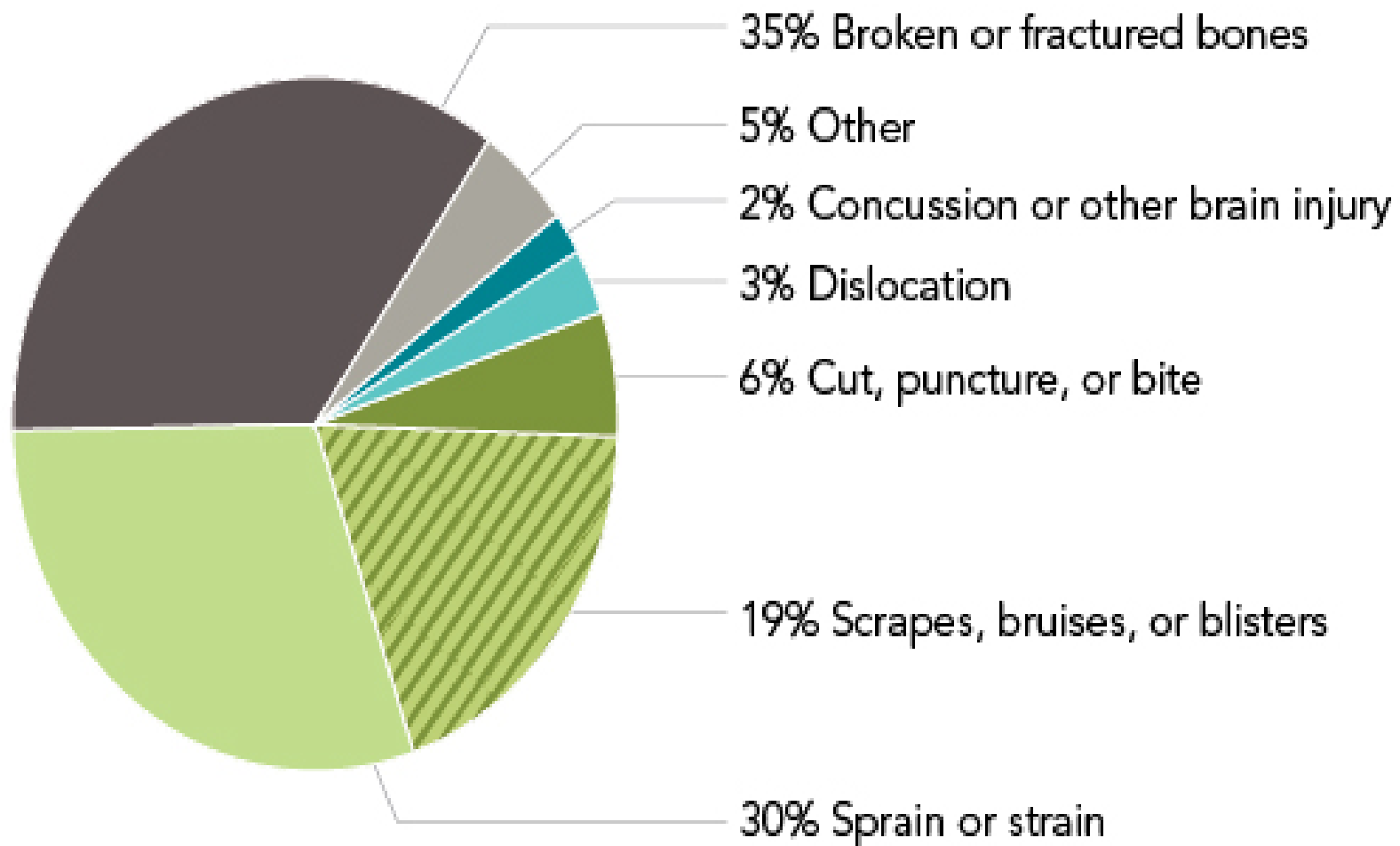


Diagram of potential adverse effects of sedentary behavior and chronic kidney disease and potential beneficial effects of exercise interventions.



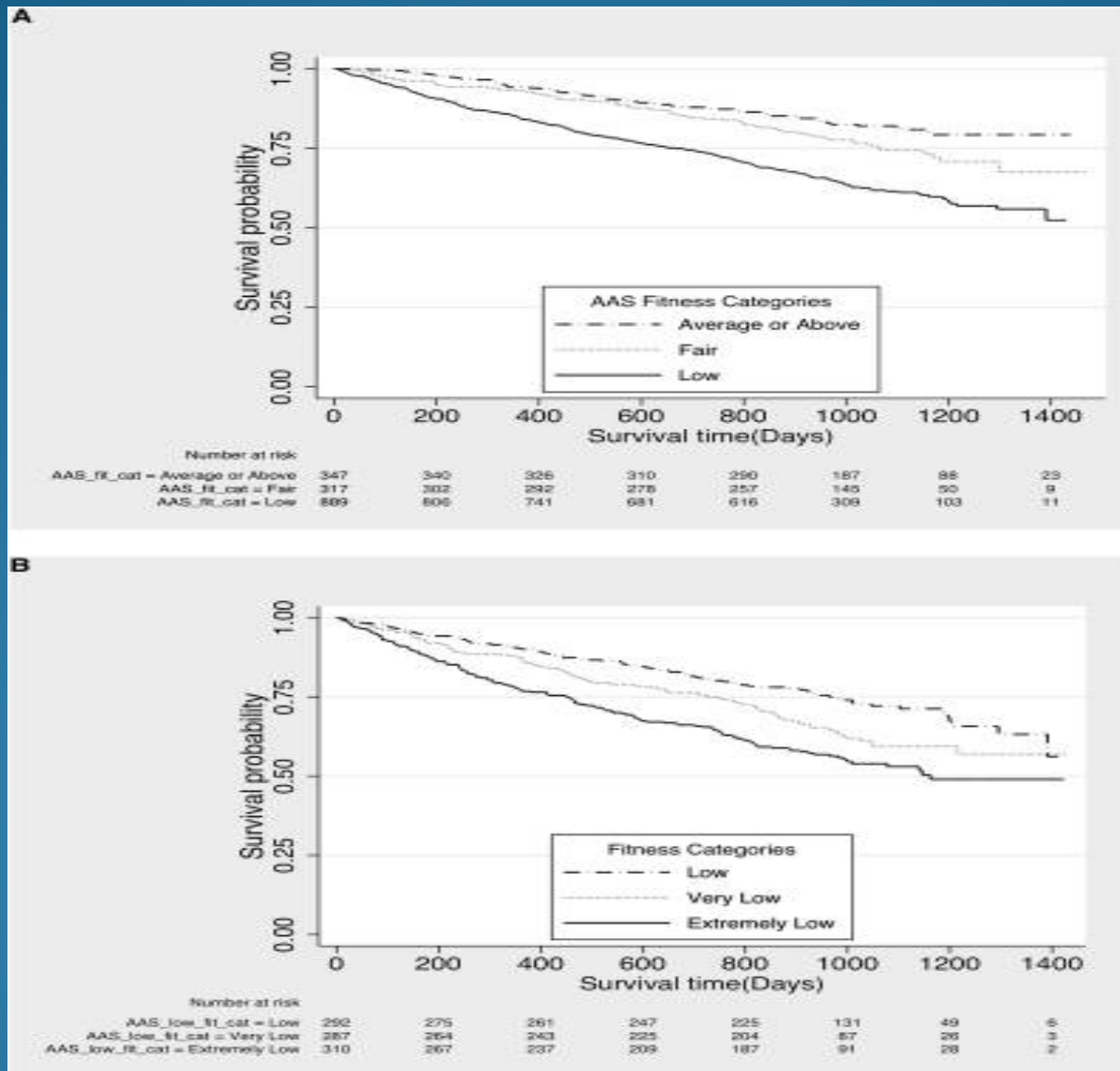
Kirsten L. Johansen JASN 2007;18:1845-1854

Falls related injuries, age 65 plus



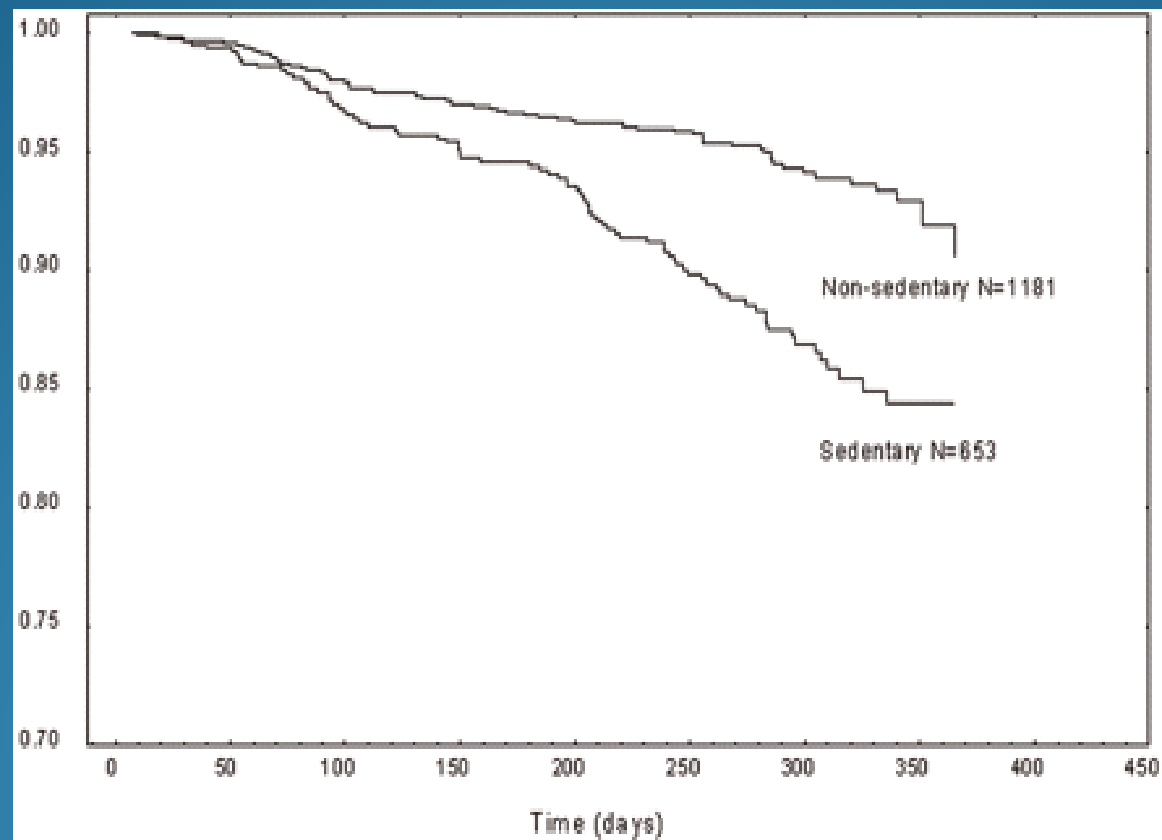
Inactivity and Mortality

Johansen et al 2013



Sedentary vs Non-sedentary

Johansen 2007



Benefits of Exercise

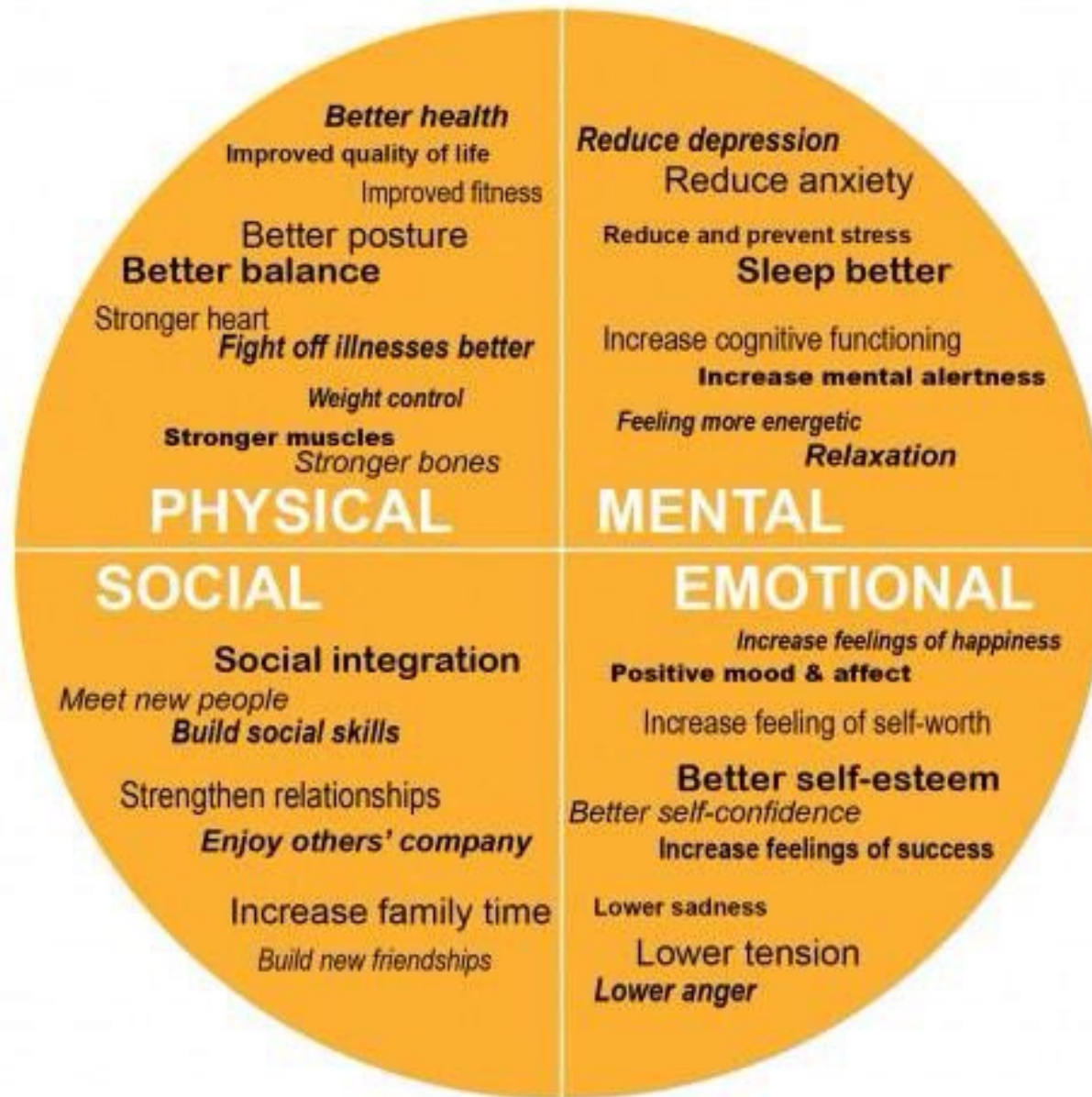
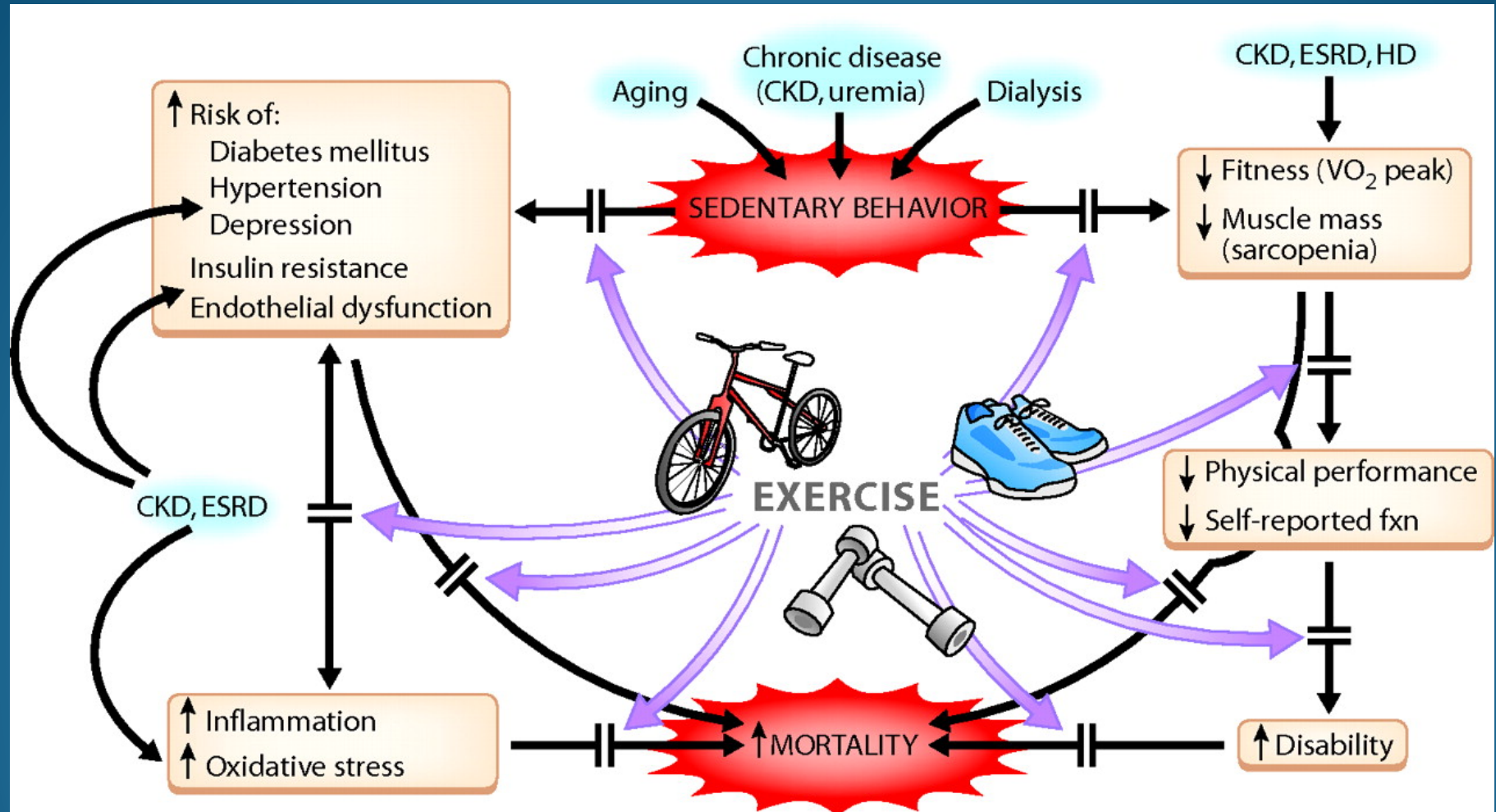



Diagram of potential adverse effects of sedentary behavior and chronic kidney disease and potential beneficial effects of exercise interventions.



Kirsten L. Johansen JASN 2007;18:1845-1854



A whimsical winter scene featuring a large, stylized snowman in the foreground. The snowman is composed of white, rounded sections and is surrounded by numerous snowflakes and snow-covered pine trees. The background shows a bright blue sky and more snow-covered trees. The overall atmosphere is bright and cheerful.

a
LITTLE
Goes a
LONG
Way

Definitions

- Physical Activity - any movement of your body
- Exercise -planned, structured, repetitive
- Aerobic Exercise –endurance training
- Strengthening Exercise-resistance training

Studies-Not on Dialysis

- SLOWER DECLINE IN KIDNEY FUNCTION
- DECREASED BLOOD PRESSURE
- INCREASED V02 MAX
- INCREASED EXERCISE TOLERANCE
- INCREASED STRENGTH

Studies -DIALYSIS

- INCREASED FUNCTIONAL STATUS
 - -6 minute walk test
 - -sit to stand test
- INCREASED QUALITY OF LIFE
- INCREASED COGNITIVE FUNCTION
- INCREASED QUALITY OF SOCIAL INTERACTIONS
- INCREASED AEROBIC CAPACITY
- INCREASED MUSCLE MASS

Studies- INTRADIALYTIC

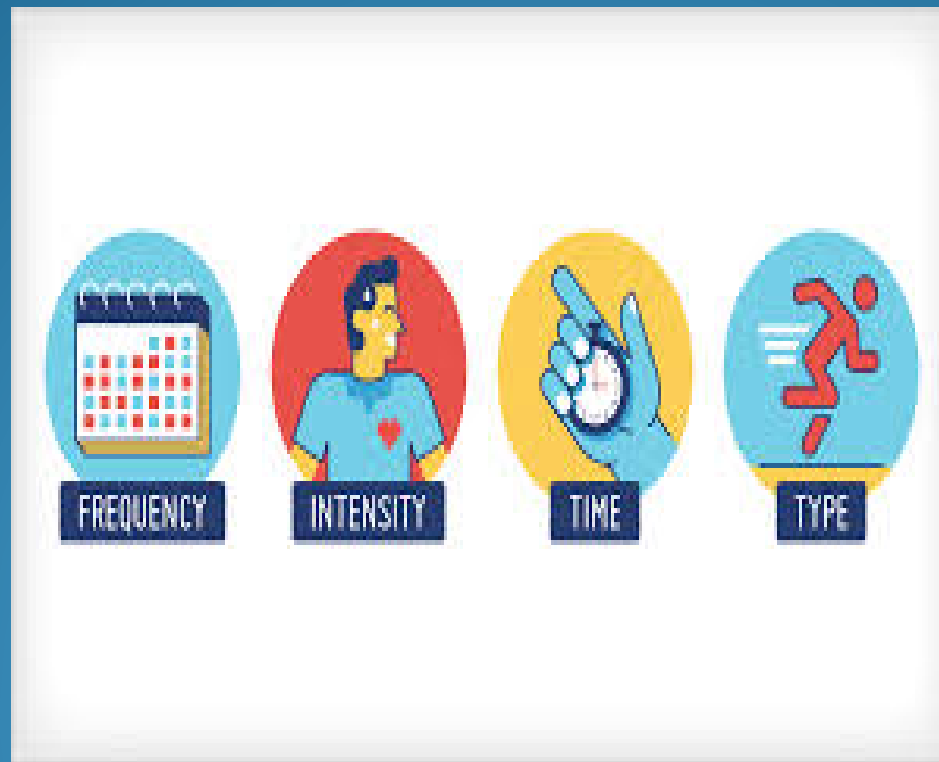
- INCREASED STRENGTH
- INCREASED CARDIAC FUNCTION
- DECREASED BLOOD PRESSURE
- INCREASED GLYCEMIC CONTROL
- INCREASED HEMODIALYSIS EFFICIENCY
- INCREASED QUALITY OF LIFE
- DECREASED ANXIETY
- DECREASED RESTLESS LEG
- DECREASED BLOOD PRESSURE INSTABILITY

Studies-TRANSPLANT

- INCREASED EXERCISE CAPACITY
- INCREASED QUALITY OF LIFE
- DECREASED BMI
- IMPROVED ARTERIAL STIFFNESS
- IMPROVED MUSCLE MASS

Exercise Principles

How do we get started?



RPE SCALE

RATE OF PERCEIVED EXERTION

10

/

MAX EFFORT ACTIVITY

Feels almost impossible to keep going. Completely out of breath, unable to talk. Cannot maintain for more than a very short time

9

/

VERY HARD ACTIVITY

Very difficult to maintain exercise intensity. Can barely breathe and speak only a few words

7-8

/

VIGOROUS ACTIVITY

Borderline uncomfortable. Short of breath, can speak a sentence

4-6

/

MODERATE ACTIVITY

Breathing heavily, can hold a short conversation. Still somewhat comfortable, but becoming noticeably more challenging

2-3

/

LIGHT ACTIVITY

Feels like you can maintain for hours. Easy to breathe and carry a conversation

1

/

VERY LIGHT ACTIVITY

Hardly any exertion, but more than sleeping, watching TV, etc

Contraindications and Precautions



ANY activity is better than NO activity!



"Our bodies are our gardens to
which our wills are gardeners."
—William Shakespeare





Physiotherapy Association of BC

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