The Impact of different types of physical activity on skeletal & muscular system.

Effect of warm up on skeletal muscle tissue

=> An increase in core body temp will produce these physiological effects on skeletal muscle tissue:

A reduction in muscle viscosity leading to an improvement in efficiency of muscular contraction

greater speed & force of contraction due to a higher speed of nerve transmission

An increased flexibility that reduces the risk of injury due to ↑ extensibility of tendons & ligaments.

Effect of cool down on skeletal muscle tissue

- an ↑ in speed of removal of lactic acid & carbon dioxide that raise the acidity levels of muscle & affect pain receptors due to oxygen rich blood being pushed out through muscle.
- A ↓ in risk of DOMS, which is the muscular pain experienced 24-48 hours after intense exercise due to microscopic tears in muscle fibres.

GROWTH PLATE

Delicate area found between shaft and either end of long bone in children & adolescents.

Physical Activity:

ADV
- no advantages.

DIS
- injuries in young people are common
- impact injury would cause sprain
- injury can occur due to overuse caused by repetitive practise of specific skills.

OSTEOARTHRITIS

A degenerative disease caused by a loss of articular cartilage at the ends of long bones in a joint. causes pain, swelling & reduction in motion in your joints.

Physical Activity.

ADV.
- if frequency & intensity is managed carefully
- Exercise will create an aerobic capacity, manage weight & reduce fat. - reduce mechanical strain on joints.
- Regular activity will improve joint stability by strengthening surrounding muscles & joint ~~stability~~ mobility can maintain & sometimes improve.

DIS
- risk factors include a major injury or being overweight. - both cause mechanical strain on a joint & contribute to wear & tear on articular cartilage.

OSTEOPOROSIS

weakening of bones caused by a reduction in bone density making them prone to fracture.

Physical Activity.

ADV
- high impact activity is thought to achieve peak bone density - bone is strongest - has a positive effect on bone health
- ~~Resistance~~ training & weight bearing.

DIS
- sedentary lifestyle can occur if someone with osteoporosis has any sudden pain in sport as it would cause fracture.

MUSCLE HEALTH: POSTURE & ALIGNMENT

- multifidus & transverse abdominis - skeletal muscles responsible for posture.
- greater muscle tone in trunk muscles, the better posture & core stability.

Physical Activity.

ADV strength training
- ~~Aerobic exercise~~ will ↑ muscle tone in postural muscles of trunk & develop core stability.
- Aerobic exercise will help control body weight meaning less strain to put on bones & joints - easier to maintain correct body alignment.

JOINT STABILITY.

-> a stable joint is able to be constantly compressed & stretched without injury
-> Not v. elastic making them ~~more~~ prone to stretching & even snapping.
-> more ligaments = more stable.
-> Deeper joints have larger surface area of connecting bones - most stable type.
-> location & tone of surrounding muscle effect joint stability.

Physical Activity DISADVANTAGE
- high large forces in impact & contact sports can lead to ligament damage & dislocation of less stable joints.
  - knee & ankle are particularly at risk of ligament damage, while shallow joints of shoulder are more susceptible to dislocation.

Physical Activity ADVANTAGE
- efficient functioning of joint structures, articular cartilage, ligaments & surrounding muscles.
- Exercise strengthens these structures & will lead to an ↑ in stability of joint.
- without exercise - ligaments shorten & become even less elastic & muscle tone will be lost - decrease stability.
- inactivity also leads to reduction in [illegible] would being released - joint incongr

give 3 strengths & 3 negatives of high impact physical activity on skeletal system (6)