

LOW BACK PAIN IN COMPETITIVE SWIMMERS

KEENAN ROBINSON

POTENTIAL CAUSES OF DISCOMFORT

- MUSCLE AND LIGAMENT SPRAINS
- SCHEUERMAN DISEASE- JUVENILE SKELETAL MUSCLE DEFORMITY
- HERNIATED DISC
- FACET JOINT INJURY
- TUMORS
- INFECTIONS
- SPONDYLOLYSIS- STRESS FRACTURE THROUGH PARS AREA OF VERTEBRAL SPINE

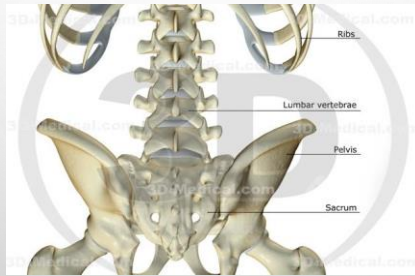
SOFT TISSUE ANATOMY OF LOW BACK



SOFT TISSUE FUNCTION

- SPINAL STABILIZATION
- TRUNK EXTENSION
- TRUNK ROTATION
- TRUNK LATERAL FLEXION

OSSEOUS ANATOMY



OSSEOUS FUNCTION

- PROTECTION OF THE SPINAL COLUMN
- DISSIPATE FORCE WITH GROUND CONTACT

PREVALENCE

- CHASE ET AL SHOWED THAT INJURY RATES OCCUR AT 5.5/1000 ATHLETE EXPOSURES OR 3/1000 HOURS OF EXPOSURE
- FOLKVARDSEN ET AL FOUND SIMILAR MRI FINDINGS BETWEEN SWIMMING POPULATION AND AGE MATCHED GROUP. NON SWIMMERS JUST REPORTED LOW BACK PAIN MORE
- ZAINA ET FOUND A HIGHER PREVALENCE IN PEDIATRIC FEMALES, AGE 12.5, OF ASYMETRY AND HYPERKYPHOSIS

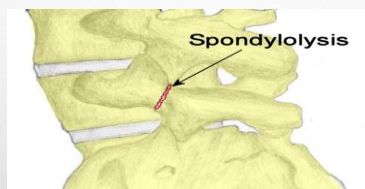
WHAT DOES KYPHOSIS LOOK LIKE?



ETIOLOGY

- DU ET AL EXAMINED THE AMOUNT OF HYPEREXTENSION IN FRONT CRAWL AND FOUND NONE
- NYSKA (2000) FOUND A HIGHER PREVALENCE IN BREAST AND FLY OF SPONDYLOLYSIS
- VERNI ET (1999) FOUND NO DIFFERENCE IN SYMPTOMATIC/ASYMPTOMATIC FIN SWIMMERS UNDER RADIOLOGICAL IMAGING
- KANEOKA ET AL (2007) FOUND PREVALENCE OF DISK DEGENERATION IN 68% OF COMPETITIVE SWIMMERS BUT PAIN, STROKE, AND DEGENERATION HAD NO SIGNIFICANT CORRELATION

SPONDYLOLYSIS



TREATMENT IS MULTIDISCIPLINARY

- COACH AND ATHLETE AWARENESS
- SPORTS MEDICINE PHYSICIAN
- ATHLETIC TRAINER, CHIRO, PHYSICAL THERAPIST, MASSAGE THERAPIST, SPORTS PSYCHOLOGY
- STRENGTH COACH

DRYLAND/PREHAB EXERCISES

- STUART MCGILL "BIG 3" CORE ROUTINE
 - CURL UP
 - SHORT ARC SIDE PLANK
 - BIRD DOG

BIG 3



ACTIVITY MODIFICATION

- FOLLOW HEALTH CARE PRACTITIONERS GUIDELINES
 - LIMIT PAINFUL ACTIVITY, BUT STAY ACTIVE IN WATER
 - AVOID HYPER EXTENSION ACTIVITY ON LAND
 - AVOID HYPER ROTATION ACTIVITY ON LAND

QUESTIONS?

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