LOW BACK PAIN IN COMPETITIVE SWIMMERS

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POTENTIAL CAUSES OF DISCOMFORT

• MUSCLE AND LIGAMENT SPRAINS
• SCHEUERMANN 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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