



Strategies for Preventing Common Swimming Injuries

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[Overview]

- Causes of injuries
- Commonly injured joints in swimmers
- What can be done to prevent injuries
- Exercises for swimmers

[General Causes of Injury]

- Repetitive use on a daily basis
 - Much like factory workers
- Lack of variety in workouts
 - Variety is critical to give muscles a break
 - Mentally, swimmers will tune into their stroke mechanics
- Excessive yardage
 - Especially in sprinters
 - Power muscles vs Endurance Muscles
- Lack of adequate rest in practice
- Poor nutritional strategies
- Sleep deficiencies

[Common Joint Injuries]

- Shoulders
- Knees
- Backs
- Ankles

[Shoulders]

- Most commonly injured joint in swimmers
 - Most unstable joint in the body
 - Mainly due to overuse and excessive yardage
 - Breakdown occurs when smaller muscles fatigue
 - Power muscles pull shoulders forward
- Stabilized by Rotator Cuff

[Rotator Cuff]

- Comprised of 4 muscles
 - 1 large internal rotator
 - 3 smaller external rotators
- Why is it important?
 - These muscles hold the humerus in place through movement
 - When they are weak, the joint becomes unstable

[Shoulder Exercises & Stretches]

- External & Internal Rotation
 - Tubing
- Scapular Stabilization
 - Tubing
 - Pull apart
 - Hold apart and raise shoulders up and down
 - Archers
 - Chicken wings
 - Foam Roller with tubing
 - Front plank on wall
 - Plank and roll front to back
 - Vary elbow widths
- Milk the Cow Stretch
- Pec Stretch on Fit Ball

[Knees]

- Commonly injured in Breast Stokers
 - Usually medial collateral ligament strain
 - Caused from excess torque on kick
 - Can be due to a lack of lateral hip strength
 - Weakness of inner thigh muscles
- Patella Tendon Issues
 - Excessive kick sets
 - Dry Land Training
 - Excessive Running without proper training
 - Poor technique and lack of bone density
 - Poor jumping mechanics and landing technique
 - Knees come in front of toes
 - Multiple lunges with poor knee position

[Knee and Thigh Exercises]

- Bodyweight Squat
 - Normal
 - Wide with toes out for inner thigh
- Single Leg Crossover Squat
- Split Squat
- Crossover Lunge
- Tubing Exercises
 - Lateral stepping
 - Marching

[Back and Spine]

- **Scoliosis**
 - Swimming is one of the best exercises
 - Ironically, it can overdevelop the wrong muscles
 - Dryland can place stress on apex of curvature
- **Low Back Pain**
 - Strain from short axis strokes
 - Taller athletes tend to be at greater risk
 - Poor abdominal exercises can place strain on discs
- **Stress Fractures**
 - Excessive jumping with improper mechanics
 - Overloading the spine with overhead weight
 - Weakness in core/tight hip flexors

[Back Exercises]

- Front Planks
 - Add reaching and/or pulling tubing
- Side Planks
 - Hip touch
 - Hip touch and leg lift
- Good Mornings with bodyweight

[Abdominal Exercises]

- Foam Roller
 - Front plank and roll
 - Elbows on roller
 - Side planks with hip flexion
 - Ankles on roller
 - Push-up and pike
 - Ankles on roller
- Crunches
 - No hyperextension over fit ball or BOSU
- Be careful of posture on V-ups
 - Athletes cheat when tired

[Ankles]

- Ankles are often injured with overuse of fins in kick sets
- Poor jump and landing mechanics in dry land
- Poor flexibility

[Ankle Exercises]

- Calf raises
 - Toes straight, in, out
- Marching with tubing
- 4 way ankle swings with tubing
- Single leg crossover squat
- Stretches
 - Calf stretch
 - Toe Drag

What can be done to prevent injuries?

- Place emphasis on well-planned dry land sessions
- Be careful with plyometric exercises
 - Swimmers don't deal with the same compressive forces as other athletes
 - Box jumps are extremely advanced
 - Stroke variety in practice
- Good warm-ups emphasizing large muscle groups
- Pec and shoulder stretches following every practice

[What can be done? Cont.]

- Keep practices fun
 - Fewer injuries occur when athletes have a good time
- Proper nutrition to repair and rebuild muscle
- If multiple athletes are getting injured, it's usually the workout
- Early evaluation and treatment



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