

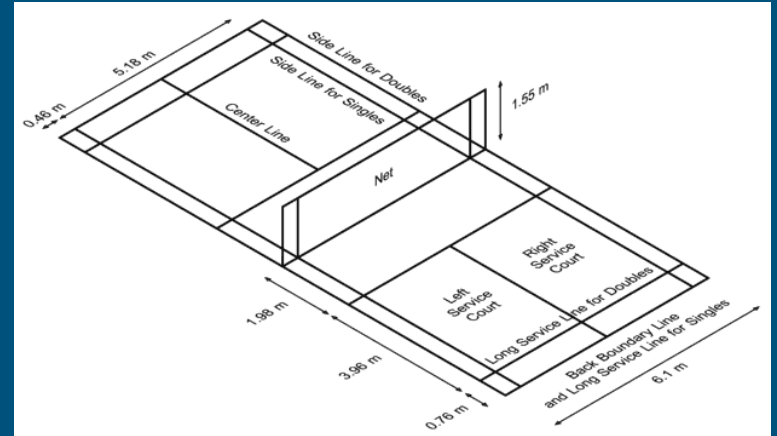


# Strength and conditioning in badminton players



# Demands of the sport

- A ballistic intermittent sport
- Matches: ~40-60 mins
- Match HR values: 80-95% HRmax
- Repetitive bouts of high and low intensity efforts
- Main outcome determinants: CODS and SV



# Specific training

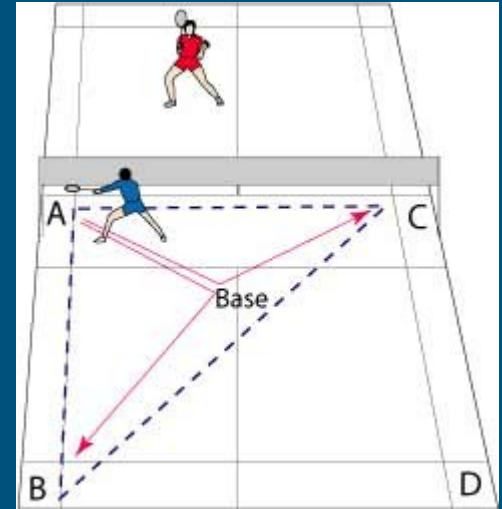
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- Minimal application of heavy resistance exercises
- Weighted resistance warm-up
  - Lower limb power output
  - Reactive agility
- Plyometrics
- Balance training

# Training - CODS

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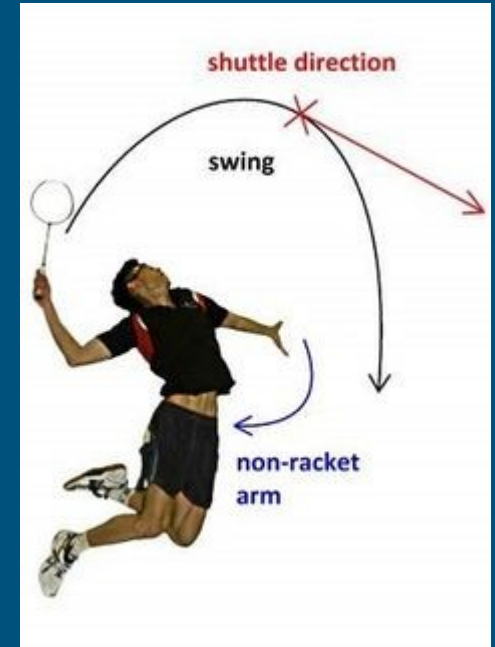
- Weighted warm-up exercises
  - Specificity is important → LB
  - Weighted vest
- Plyometrics training + balance training
  - Strengthen muscle
  - Train proprioceptive system
  - Kinaesthetic awareness
- Improve vertical jump performance and leg stiffness



# Training - Smash velocity

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- Requires: muscle power + strength, RT, body coordination
- Plyometrics
  - Stretch-shortening cycle
  - Reflex potentiation (MU activation)
  - Squat jump variations



# Potential injuries and prevention

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- Overuse knee injuries -> repetitive impact loading on lower body
- Patellar and Achilles tendinopathies -> useover injury from lunges
- Shoulder pain + injuries -> overuse injury from overhead stroke

## Prevention

- Muscle-strengthening exercises -> rotator cuff muscles
- Improve poor technique -> i.e., holding racket too tight as beginner
- Improve core strength -> affects knee joint kinematics
- Neuromuscular training -> increase trunk and hip control

# References

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