Restoring Range of Motion and Improving Flexibility

I. Basic Concepts

A. Flexibility =
   1. components of flexibility
      a. 
      b. 
   2. benefits from enhanced flexibility
      a. 
      b. 
      c. 

B. Different sports require different degrees of flexibility

C. Factors limiting flexibility
   1. 
   2. 
   3. 
   4. 

D. Measurement of ROM
   1. dynamic flexibility 
   2. static flexibility

E. Agonists vs. Antagonist Muscles
   1. agonist muscle =
   2. antagonist muscle =
a. contract-relax (CR)
b. hold-relax (HR)
c. slow reversal-hold-relax (SRHR)

5. neurophysiology:

V. Relationship Between Strength and Flexibility

A. Improper strength training = Decreased flexibility
   1. exercises not performed through full ROM
   2. not used in conjunction with stretching
   3. possible tissue damage that occurs with weight training may lead to
      scar formation

VI. Guidelines for Stretching

1. warm-up
2. stretch until tension is felt in the muscle, not pain
3. hold a stretch for 15-30 seconds
4. breathe normally and relax
5. stretch at least 3 times a week, ideally 5-6 times a week

VII. Precautions for Stretching

1. only discomfort should be felt, not pain
2. stretches should be specific to the muscle and joint requiring an increased
   ROM
3. avoid overstretching ligaments and joint capsules
4. use caution while stretching the low back
5. when possible, stretch in the seated or lying position to avoid stress on the low back

6. ballistic stretching should only be used after static stretching

7. ballistic stretching should only be used by those who are already flexible

8. static and PNF stretching should be used to achieve increased ROM