Scenario #4 reflection packet

S: Athlete stopped team workouts mid run complaining of a sharp moderate pain in her left hamstring. She has previously injured her hamstring a year prior during season and said she re~injured it during team runs. The athlete describes her pain as a localized sharp pain over muscle belly. Athlete reported she did not hear a 'pop' at time on injury.

0: No noted Antalgic gait
No swelling and ecchymosis
No defect in hamstring
Tender to palpation over semitendinosus muscle belly
Active range of motion with in nonnallimits
Passive range of motion with in nonnallimits
Resistive range of motion painful with knee flexion
Strength: 3/5 with knee flexion

A: Hamstring strain

P: Ice after practice
Heat and stretching before practice
UltrasoWld
Micro- stimulation
Light therapy
Strengthening and endurance exercises

Protocol:

Immediate intervention:

- Ice pack
  - 10-15 minutes
  - Goals to relieve pain and help prevent edema formation
  - We are trying to achieve vasoconstriction to help prevent swelling
  - Athlete has no contraindications- no cold illness/conditions
- Heat
  - 1:5minutes before practice
  - Coupled with active and passive stretching
  - Goals to improve flexibility of the muscle
  - Physiologically heating a muscle will help increase the elasticity of the muscle for more flexibility, it also has an analgesic effect

1 week after evaluation:

- Ultrasound
  - 7 minutes
  - Duty cycle 50%
  - Frequency IMHz
  - Intensity **1-** 1.5
  - Goals to promote collagen fiber formation and reduction of scar formation over the tissue, also reducing edema
  - Physiologically the cells are becoming more permeable which will help with movement of fluid to help collagen fiber formation and reduction of edema in injured area
  - Athlete has no contraindications to this modality

Reflection

During treatment for this athlete John also used different modalities such as micro-stimulation in combination with light therapy. We discussed that with the combination of these modalities it would help promote the healing process of the muscle injury. Something that I would have changed would be to try to use the ultrasound modality more with the thermal effect. This athlete did not have much flexibility in her hamstring so using the heating effect could help the elasticity of the muscle. We used the pulsed non-thermal effect instead which we say positive progression using. Also something during her rehab I thought was very interesting was PNF stretching. I have never seen PNF stretching before; John and I discussed how it helps with strengthening the muscle. The athlete is now fully recovered and has been playing full out for several weeks.