Case 6

24 yr. female

novice runner

chronic right medial tibial stress syndrome

pain after 25 mins of running

metatarsal stress fracture at 16

BMI 18

history of eating disorders, train in the gym 6 days a week

cadence 176

wants to do a 10k event in a month

1 - Key findings

a. Excessive bounce: more load on the tibia

b. Cross-over gait: can put more load on the lower legs

c. Excessive pelvic drop: reduce pelvic stability can increase loads on the lower limb

2 - Gait retraining or not?

Yes. But first address their beliefs and expectations!

3 & 4 - Training goals and how to achieve them

a. Address their beliefs and expectations

- expecting to run 10 k in a month if you can't do 25 mins without pain is unrealistic

- emphasize that this might lead to a tibial stress fracture if not handled properly

- address diet and low BMI, advise to have blood work done

- monitor the load, both running and gym workouts

b. Fix cross-over gait

- education why this is important

- running in front of a mirror, marking the treadmill with a mid-line and telling them to place their feet on either side when running (visual cues)

- strengthening exercises emphasizing hip muscle, especially abductor and external rotators

- plyometric drills with emphasis on not crossing the feet over midline

c. Run with bounce < 10 cm

- education why this is important

- running in front of a mirror (visual cues)

- using verbal cues (e.g. imagine you run under a low ceiling)

- use auditory cues (e.g. listen to the sound of the landing, now run as silent as a Ninja)

- emphasize keeping the trunk active (run tall, don't sink into your back when you land)

5 - Potential barriers

Their personality, convictions and beliefs: address them carefully and non-judgmental, but also explain the way the body works, the importance of nutrition, rest, monitoring loads, giving tissues time to adapt. Maybe explain that the body doesn't get stronger from exercise, but from the rest AFTER exercise.