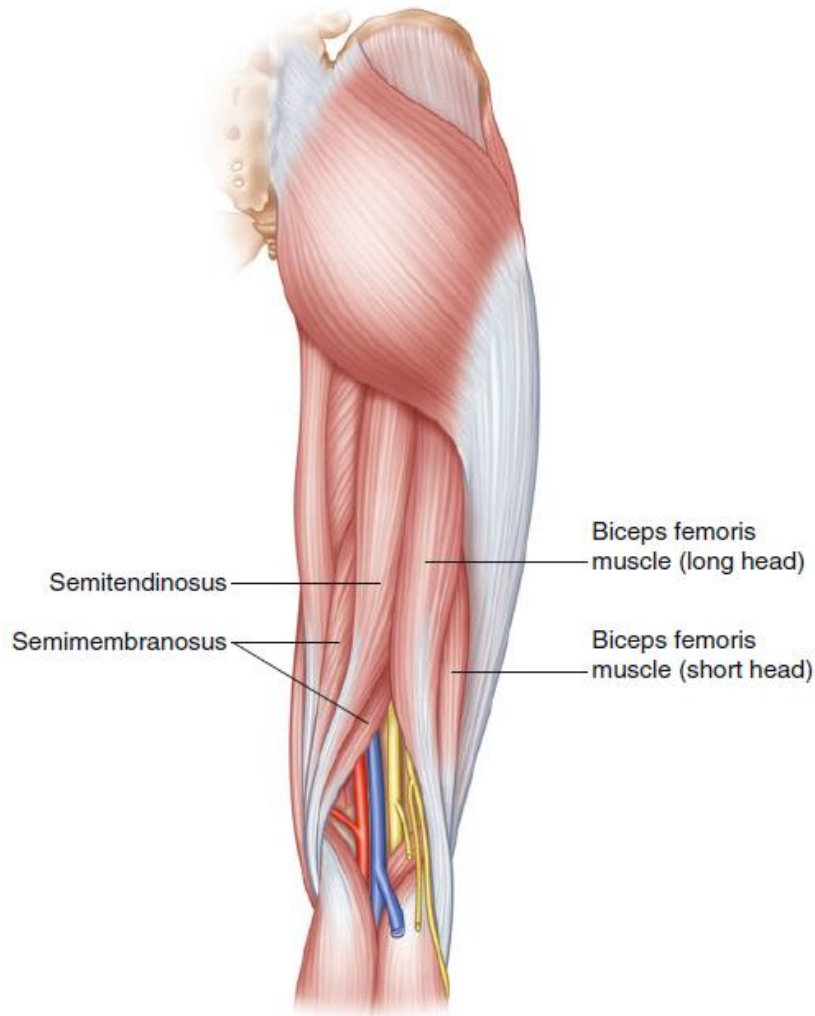


Hamstrings: prevention and rehab exercises

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Vortx



Main injury in many sports: NFL, rugby, AFL, **sprint**, soccer, dancing, etc.



Peculiar

It seldom happens to a marathon runner, so it's related to distance and distance is related to running speed:
sprinting

It seldom happens at the start, mostly between
50 - 100 m: maximum speed phase or speed-endurance
phase

It happens at maximum speed (= maximal stride length x
maximum frequency) combined with tightening up
(stress) and fatigue setting in

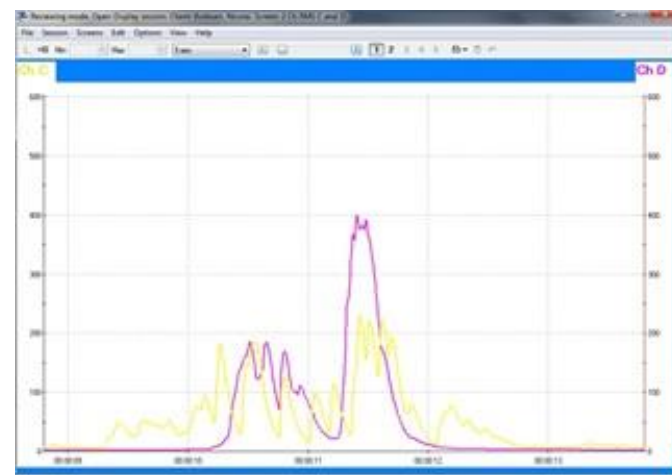
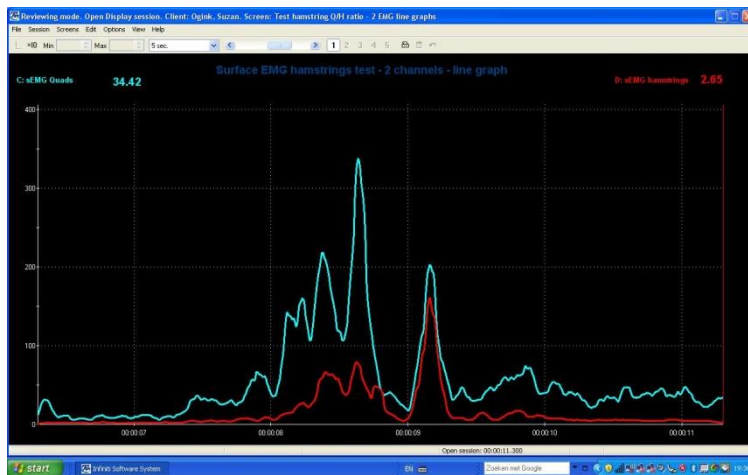
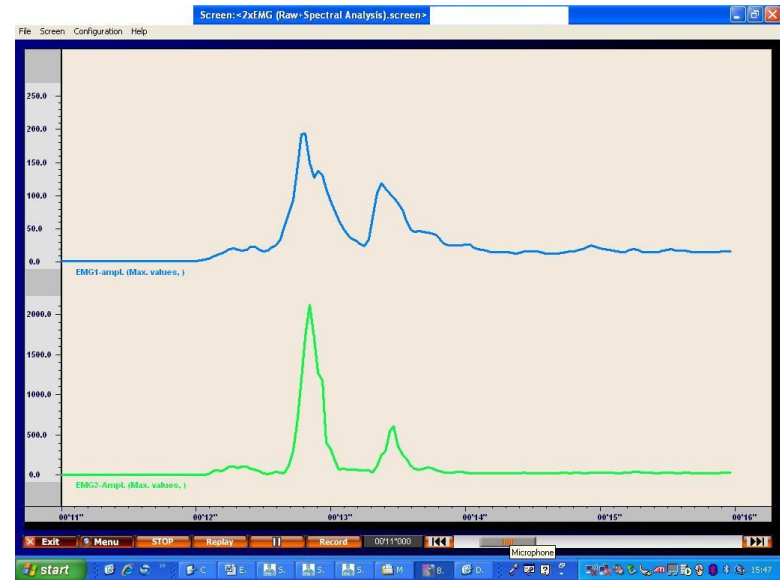
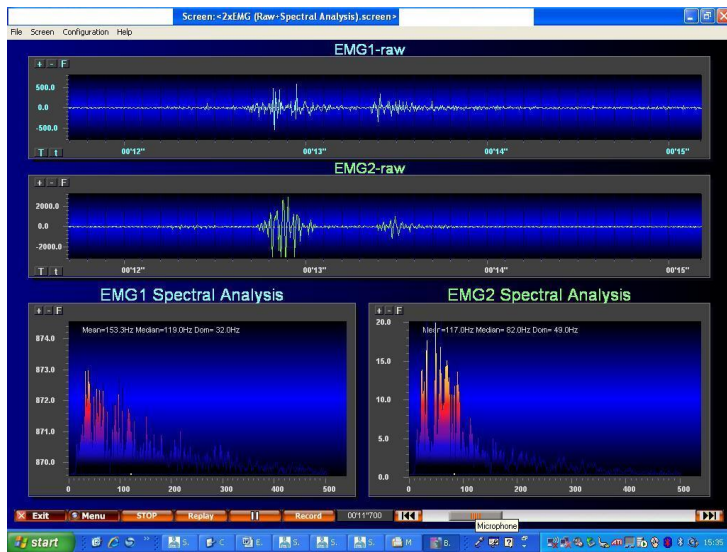
Three important qualities

- High movement velocity (high frequency) **not low velocity**
- Fast alternating flexion and extension in swing leg and support leg 4-5x/sec, **not bilateral**
- Eccentric phase: hamstring is stretched under load, **not concentric**

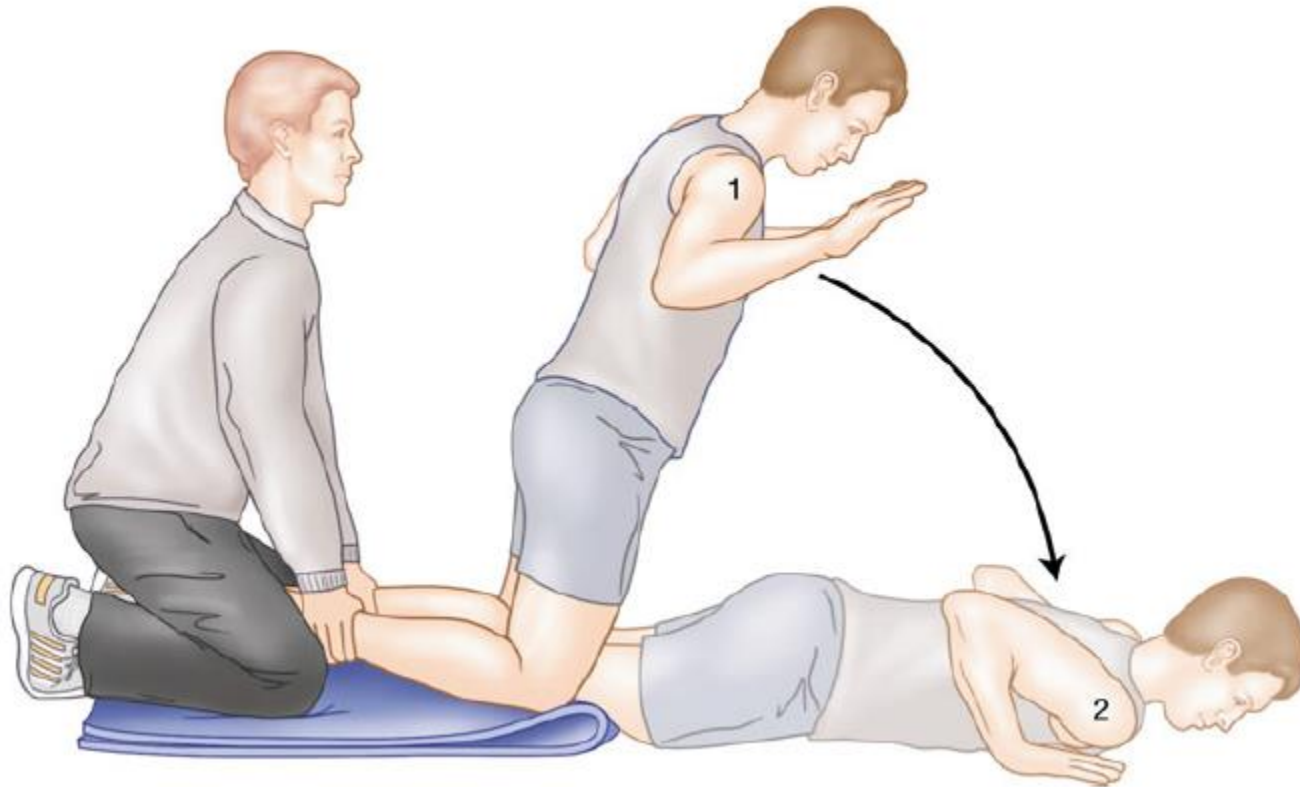
- **Remember: alternating action, eccentric, high velocity**

Evaluation

- Lack of flexibility: not conclusive
- Lack of strength (Q/H ratio): not conclusive
- Alternative: Q/H in EMG during high velocity knee extension: single vertical jump: during take off; Q/H ratio > 1 !
- Q/H ratio ≤ 1 : hamstring problem



helping the best to get better



Nordic hamstring curl: eccentric, but slow and two legs

Rehab of hamstring injuries for explosive sports

- No jogging! sprinting with sledge:
- day 1: 10 x 5 m (full speed, full rest)
day 2: 2 x 10 x 5 m
day 3: 10 x 10 m
day 4: 2 x 10 x 10 m
etc.
- Meanwhile, work on weak points: core (medball), flexibility, imagery, etc.

Hamstring rehab and prevention exercises

- orientation: manual bilateral, alternating, resistance by therapist 3 sets of 20-30 reps
- sitting on table or high jump/polevault mattress fast, alternating knee extension flexion: 5 x 5-10 seconds, also as a reaction-exercise
- lying on stomach: fast, alternating knee flexion and extension against Swiss ball or Theraband
- 5 sets of 5-10 seconds (change ROM)

Thanks for your attention!

Any questions?

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