EMORY
SPORTS MEDICINE
CENTER

Exercise-induced abdominal pain in a high-level athlete

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PATIENT

- 17year old
- Male
- Elite, high school cross-country runner
- No PMHx aside from a broken collar bone as a young child

CHIEF COMPLAINT

- Recurrent right-sided abdominal pain during races
  - –Sharp, non-radiating during 2 mile mark of race
  - –Causes him to slow his pace
  - –Lingers afterwards for 2 days
  - –Only appears at race pace (~ 5min mile) not during practice

ROS negative.
Denies itching, rash, cough, bruising, swelling, trauma, hx of Asthma, changes in bowel, changes in appetite, or hydration

PHYSICAL EXAM

- General: normal
- Heart: normal
- Lungs: normal
- Abdominal: normal
- Neuro: Normal
- Skin: normal
- Psych: normal

Msk:

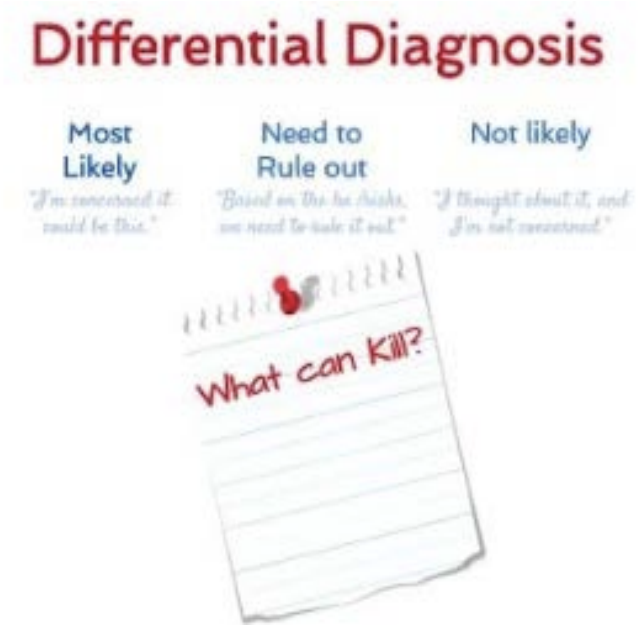
No redness, deformity, or swelling on observation of abdomen.

Full active and passive ROM in the lumbar spine, hip, and shoulder.

Discomfort during lateral flexion to left and right but no pain.

DIFFERENTIAL DIAGNOSIS

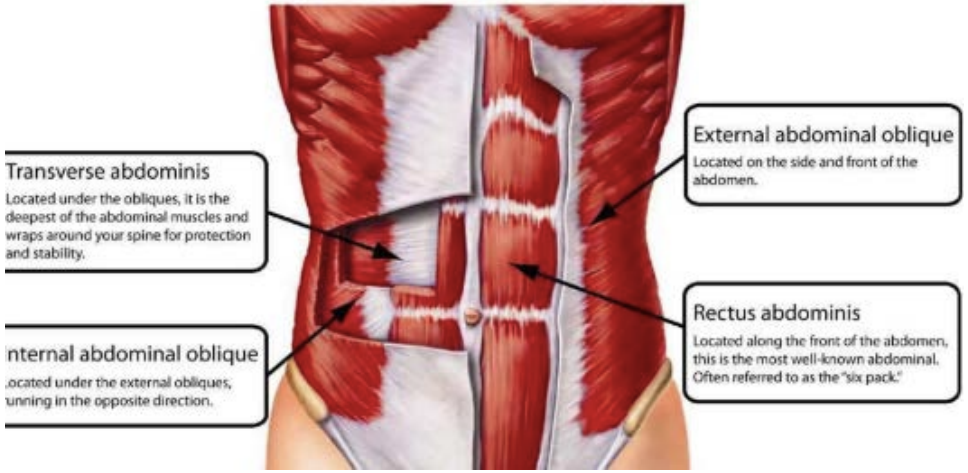
- Exercise-Associated Rectus Abdominis Strain
- Exercise-related transient abdominal pain (Side Stich)
- Exercise-Induced Asthma
- Somatic Symptom Related Running Disorder
- Lower rib contusion



MEDICAL WORKUP

- Routine blood work = normal
- Spirometry & CXR = normal
- RUQ Ultrasound = normal
- Vascular imaging = normal.

FINDINGS



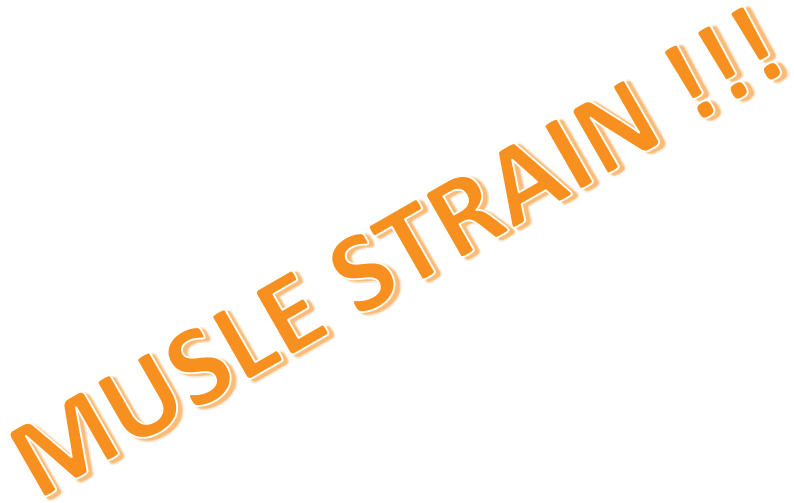
RUQ MSK US in sports office:

mild discomfort during palpation of the rectus abdominis muscle, at the same location but of lesser-intensity, as his pain at race pace.

DIAGNOSIS

- Right upper quadrant rectus abdominis muscle strain!
  - most likely given the patient's age, health status, and running mechanics
  - Lab results, imaging normal
  - Muscle strains occur mostly in larger joints, can occur along tendons
  - May only be apparent in high-level athletes exercising at peak level

(pt only felt pain running at top speed (sub-5:30 mile)



TREATMENT AND CLINICAL COURSE

- Pt advised to do:
  - heavy load strengthening of his rectus abdominis and obliques
  - manual treatments alongside a physical therapist comfortable working with high-level athletes
- Pt reassured:
  - strengthening the rectus abdominis muscle should decrease running discomfort overtime
- We recommended:
  - re-examine his running mechanics to prevent additional injuries in the future

WHAT HAPPENED AFTER THE DIAGNOSIS

- Action Steps:
  - worked with a running coach to improve his form
  - went to physical therapy
  - completed a home-strengthening program
- A few weeks later:
  - Ran his fastest time ever in the last meet of the season with minimal plan
  - Plans to graduate high school and continue running in college
  - He will return to us as needed

LESSONS LEARNED

1-Keep muscle strains on the differential to avoid unnecessary tests and delay in treatment

2-Not all muscle strains are diagnosed via physical exam or provocative tests in clinic.

3-Being skilled in diagnostic musculoskeletal ultrasound has benefits beyond injections and procedures

4-Physicians should feel comfortable advising high level athletes on management of exercise with muscle strains